FONTastic™ PLUS

Bitmap font editor for the Macintosh

ALTSYS
CORPORATION

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FONTastic Plus was written and performed by Parmanand (Parry) Kejriwal and Peter Mason with help from Jim Von Ehr and Kevin Crowder. This manual is based on the FONTastic manual developed by Doris Dant's technical writing class at Brigham Young University. It was rewritten for FONTastic Plus by Debbie Luce with assistance from Jim Von Ehr, Kevin Crowder, Parry Kejriwal, and Pete Mason. It was revised for FONTastic Plus version 2.0 by Earl Allen using Ready, Set, Go 4.5 and typeset on a Linotronic 300.

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This manual was typeset on a Linotronic 300 at 1270 dpi. The typeface used throughout is Goudy Old Style, developed by Judy Sutcliffe: The Electric Typographer, 2216 Cliff Drive, Santa Barbara, CA 93109; (805) 966-7563..

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Welcome to FONTastic Plus

Welcome to FONTastic Plus! With FONTastic Plus you can easily edit any Macintosh font. Create your own fonts with normal characters, logos, or custom art. Be as creative as you like.

FONTastic Plus 2.0 can be run on any Macintosh Plus, SE, SE/30, II, IIx or IIcx with either one or two 800K disk drives or a hard disk drive.

We assume that you are familiar with the basics of using your Macintosh when you come to FONTastic Plus. You should already know how to:

activate a window	open
close a window	scroll
copy, cut & paste	select an item
drag	

If you cannot remember how to do some of the basics mentioned above, you may quickly review them in your Macintosh owner's manual. Also, knowing how to use MultiFinder and MacPaint will add efficiency and increase your creative possibilities.

This manual includes a quick tutorial, an extended tutorial, and a reference section. It also includes a chapter about the basics of Macintosh fonts. If you want to know a little more about how FONTastic Plus works before you start, take the "Quick Tour of FONTastic Plus." Otherwise, just jump right in—use the index and reference sections to answer any questions that might arise.

FONTastic Plus is both fun and useful—we hope you enjoy it.

Before you begin, please make a backup copy of your FONTastic Plus disk. (See your Macintosh owner's manual if you need help copying.) Use only the backup copy to work with and put the original in a safe place.

If you have a single 800K disk drive, format an 800K disk and place a copy of your system folder onto that disk. Then copy the FONTastic Plus program and the Fonts file supplied on the FONTastic Plus disk to the new disk.

If you have two floppy disk drives, place your system disk in the internal drive and the backup copy of the FONTastic Plus disk in the external drive.

If you have a hard drive, create a folder on your hard disk and copy everything on the FONTastic Plus master disk into that folder.

Remember that FONTastic Plus is a copyrighted program. Distributing copies of it in any form is a crime. However, since we realize the importance of backing up important programs, FONTastic Plus is not copy-protected.

Chapter 1

A Quick Tour of FONTastic Plus

Chapter 1
A Quick Tour of FONTastic Plus

Overview

Join us now for a quick tour of FONTastic Plus. In the next few pages you'll discover some of the features that make FONTastic Plus the best program of its kind. By the end of this tour, you'll have created a useful special character and will know how to:

> Enter FONTastic Plus
> Open a file
> Open a font
> Add a character to a font
> Save a font
> Install a font on another disk
> Close FONTastic Plus
> Use the new font
> Delete a font

Things to Know

- You should read the information in the introduction

- If you have only floppy disks, watch for these special symbols 1DD and 2DD. Hard disk owners can ignore anything associated with these symbols

1DD marks special instructions for owners of only one floppy disk drive

2DD marks special instructions for owners of two floppy disk drives

Things You'll Need

· A backup copy of the FONTastic Plus disk

Remember Be sure to use your backup copy of FONTastic Plus Put the original disk in a safe place with the write protect window open

· An application In the tutorial we will refer to MacWrite but any program that allows you to choose and use different typefaces will work the same Just substitute the program that you want to use whenever we tell you to use MacWrite

Entering FONTastic Plus

Fontastic™ Plus 2 0

· Double click on the FONTastic Plus icon shown above t start the program

First you'd see FONTastic Plus s introductory screen Click on it to make it go away Next you'll see the Macintosh Standard File Selection window In that window will be the names of all files containing FONTs FONDs or NFNTs and any files to which they may be added including program application files
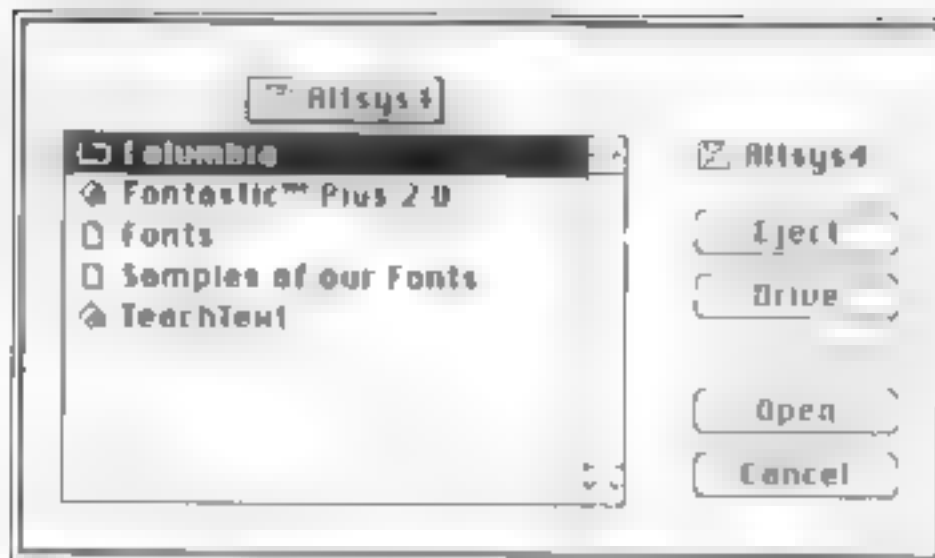
Opening a File

- Select and open the **Fonts** file on the FONTastic Plus disk (or in your FONTastic Plus folder) by double-clicking on the file's name.

You'll see a window that looks like the one below. This window is called the **file window** and its righthand part shows the selection list:

The selection list contains two types of items. The items in bold text are **FOND**s (a resource containing auxiliary tables associated with a group of FONTs or NFNTs) The items in plain text with a number appended are the actual **FONT**s or **NFNT**s (as the case may be) In this tutorial we will be dealing only with FONTs

Opening a Font

- Select Venice 24 from the selection list by clicking on its name
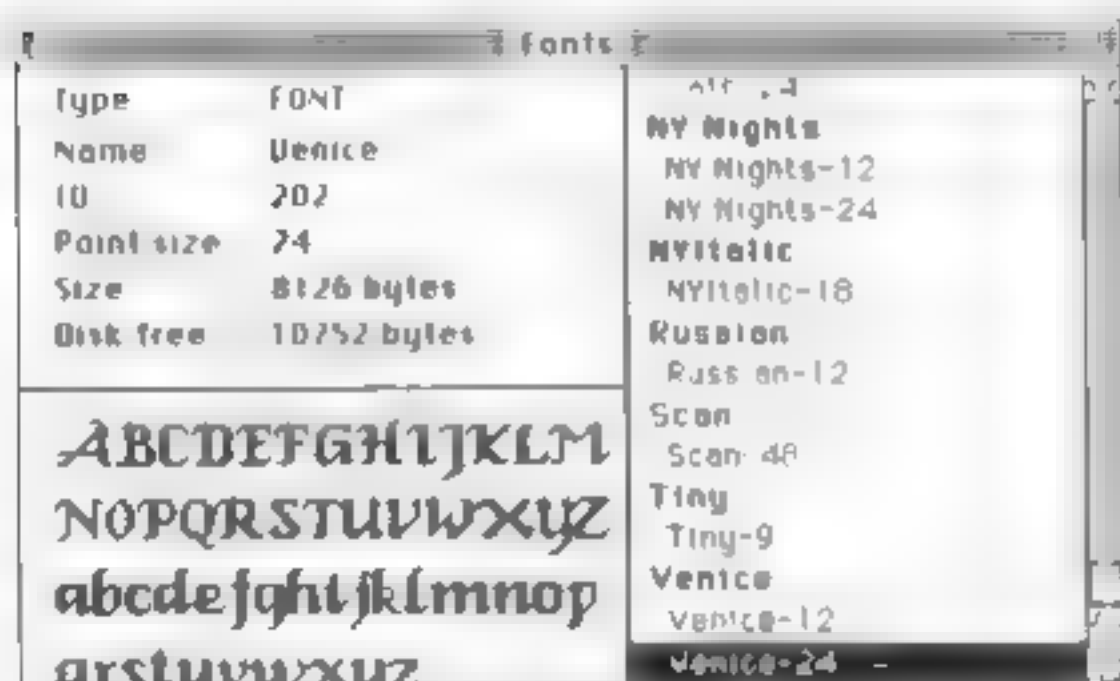
After you've selected Venice 24 you'll see a sample of Venice 24 in the file window's lower left corner. Look in the top left corner for information about Venice's point size, its font ID the amount of memory the font uses and the total amount of unused space on your disk

- Open the font either by double clicking on its name or by choosing the **Open font** command in the **File** menu

The **font window** is now open. At the top of the window

you'll see a title that reads "Fonts: Venice 24" and the characters displayed in the grid will be the actual Venice-24 characters.

@	A	B		C	E		G
	A	B	C	D	E	F	G
H	I		K	L	M	N	O
H	I	J	K	L	M	N	O
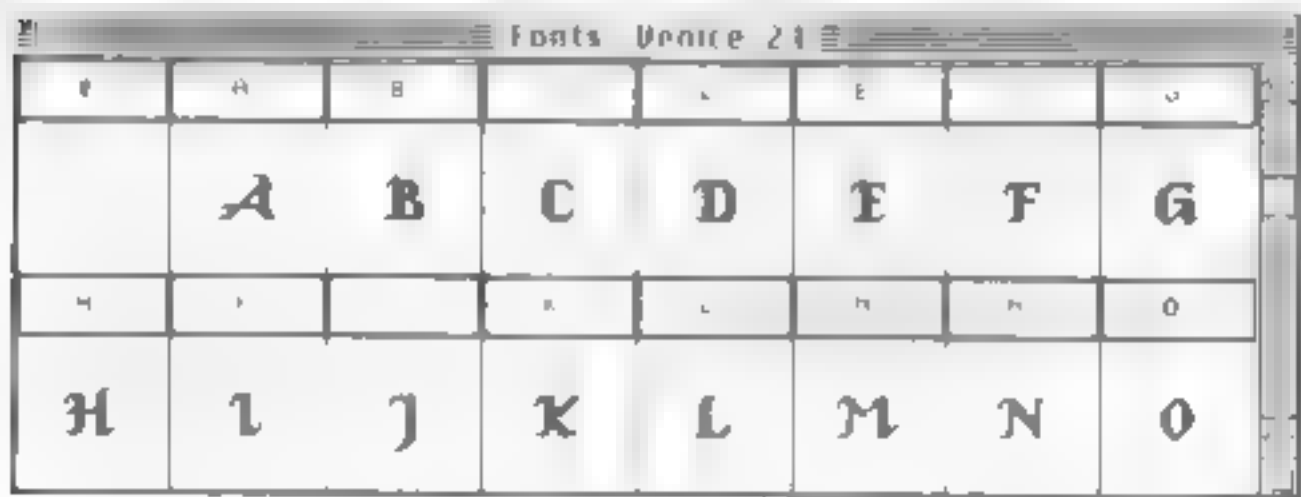
Now let's take a look at a text sample of Venice 24.

• Open a **sample window** via the **New sample** item in the **File** menu

An editable sample window will open displaying text in Venice 24. You can change this text to display any characters you wish by selecting the sample window and editing the text in it just as you would in any Macintosh text application.

Sample of Fonts: Venice 24
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789 The quick brown fox
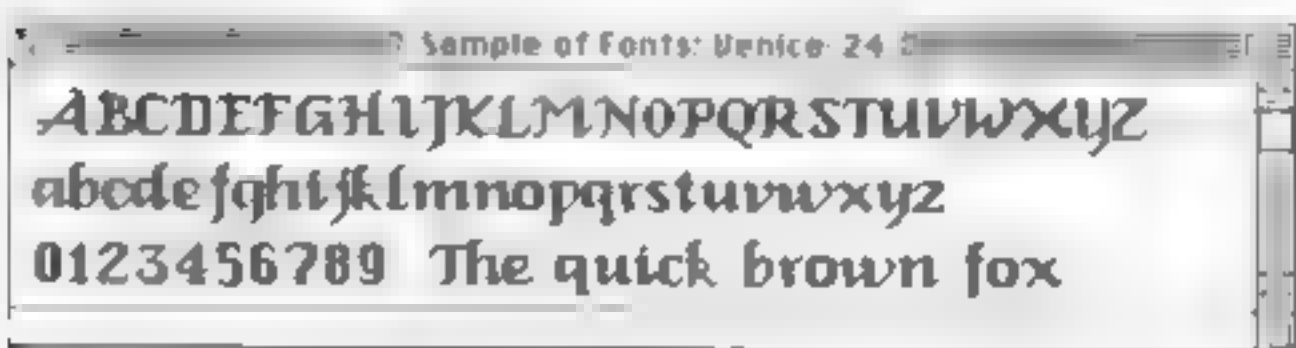
• Reactivate the font window by either selecting **Venice-24** from the window activation section of the **Windows** menu (as below) or by clicking on any exposed portion of the font window

```
┌─────────────────────────────────┐
│ Windows                         │
├─────────────────────────────────┤
│ Full screen                     │
│                                 │
│ Fonts                      ⌘0   │
│ ✓Fonts: Venice-24        ▶ ⌘1   │
│ Sample of Fonts Venice 24  ⌘2   │
└─────────────────────────────────┘
```
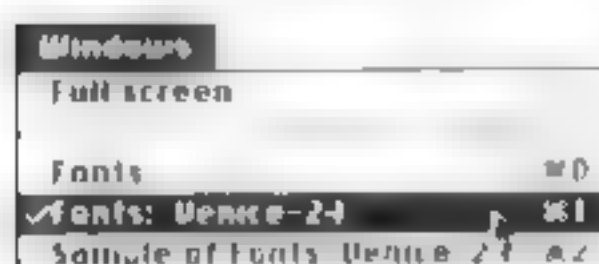
Adding a Character to a Font

In this part of the tutorial you'll create the degrees Fahrenheit (°F) character for your Venice font. Having this character will save you an extra keystroke every time you need to print a Fahrenheit temperature. Those of you who live in the enlightened parts of the world where Celsius degrees are used can substitute the letter "C" for every occurrence of the letter "F" below

What we'll do first is to copy a capital "F" to a new location the shift option F position (or shift option D for Celsius Degrees the C won't work) This procedure requires four steps

1 Click on the letter "F" in the font window or just type—shift F

2 Copy the letter Select **Copy** from the **Edit** menu to save a copy of "F" to the clipboard
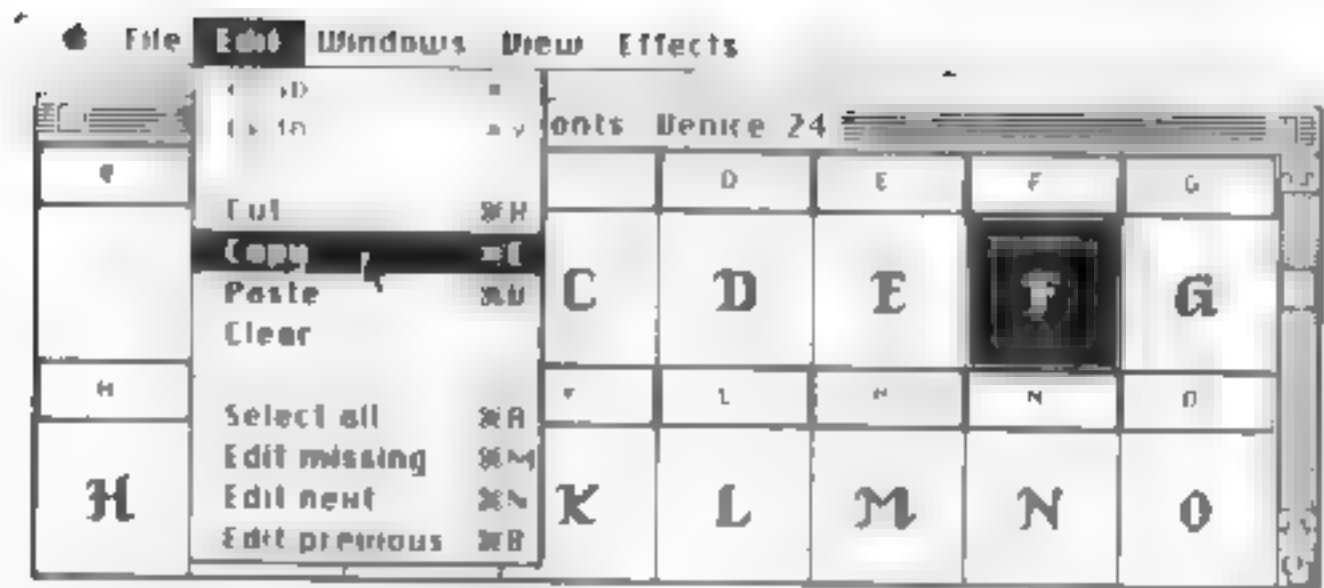
3. Find the shift–option–F position

- Press the shift-option-F keys together

- Note the new highlighted location. This is the location for the shift–option–F

4. The "F" that you just copied is still in the clipboard. Select **Paste** from the **Edit** menu. This pastes the "F" into the new position.

Now you are ready to add the degree symbol to the "F" in the shift-option-F position.

- Open the character window by either double clicking on the shift option F position in the character grid of the font window or selecting the **Open character** command from the **File** menu.
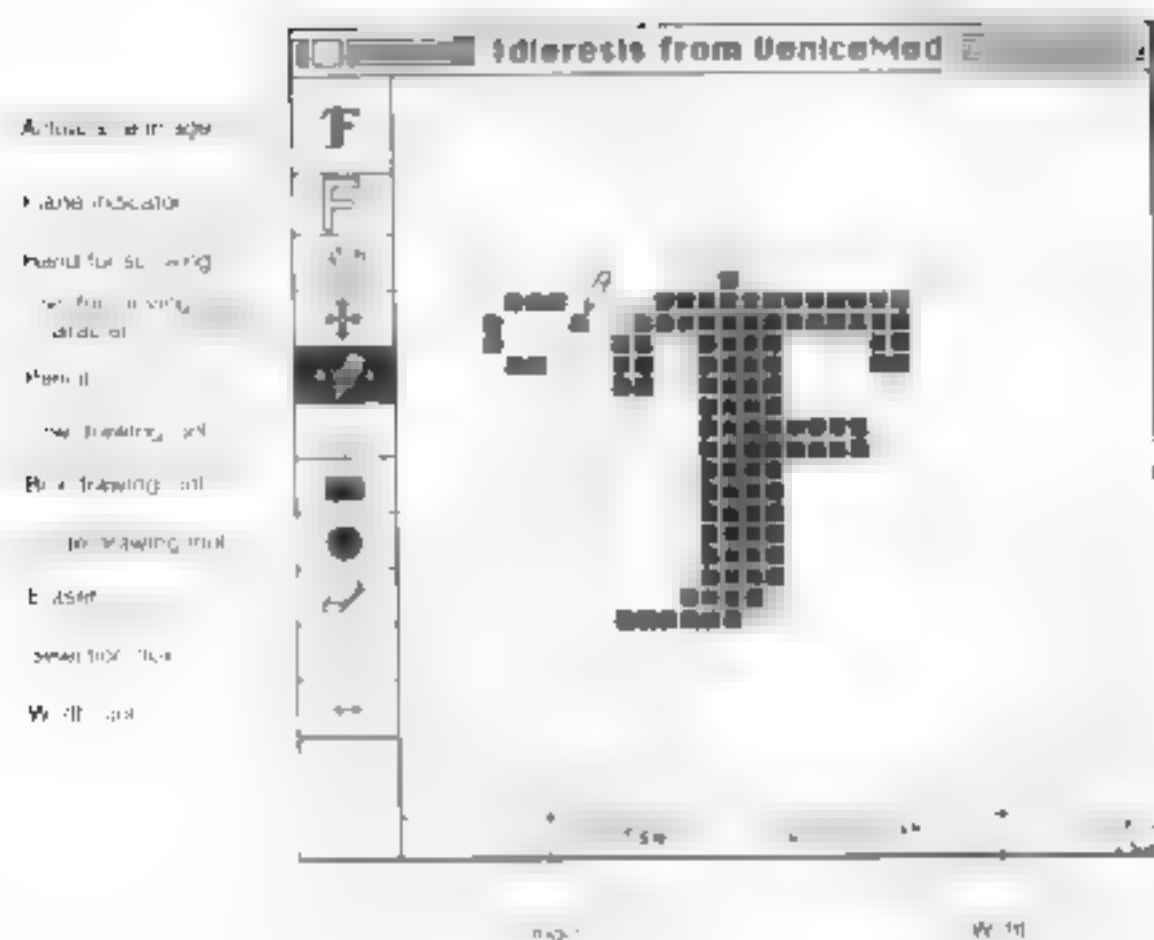
You'll see the character window (as shown above) on top of the Font window. The letter F will be enlarged so that each pixel (small square) in it is large enough to click on easily just like the FatBits mode in MacPaint. You might notice that most of the tools in the character window are similar to the Mac Paint tools.

- Using the pencil, draw the degree symbol to the left of the F. Click the mouse button to either add or remove a pixel with the pencil. Notice that the true size of the character and the changes you make are shown in the box at the upper left corner of the character window.

Testing the Character

Now let's see how this new character works in relation to the other characters in the font

- Choose **Sample of Fonts: Venice-24** from the **Windows** menu

- Scroll down in the window until you see some blank space for typing. Test your new character by typing shift option F **a few times**

```
☐ ▒▒▒▒▒▒▒▒▒▒▒▒ Sample of Fonts  Venice 24 ▒

0123456789  The quick brown fox
jumps over the lazy dog. FFFFFFF|
```
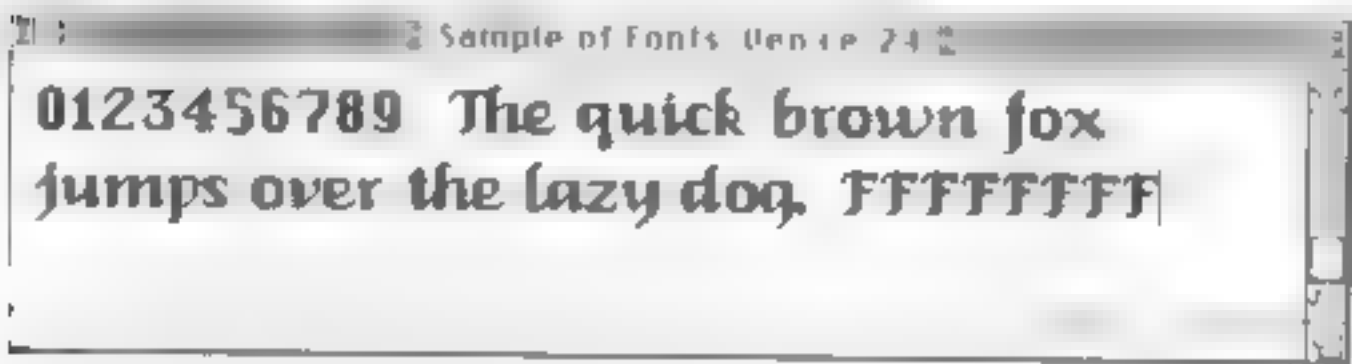
- Notice that the characters overlap incorrectly

To fix this problem you need to adjust the character origin

- Reactivate the character window

- Select the tour arrow tool from the tool palette in the character window

- Click on the large character and drag it to the right until the leftmost dots of the degree symbol are just to the right of the origin guideline
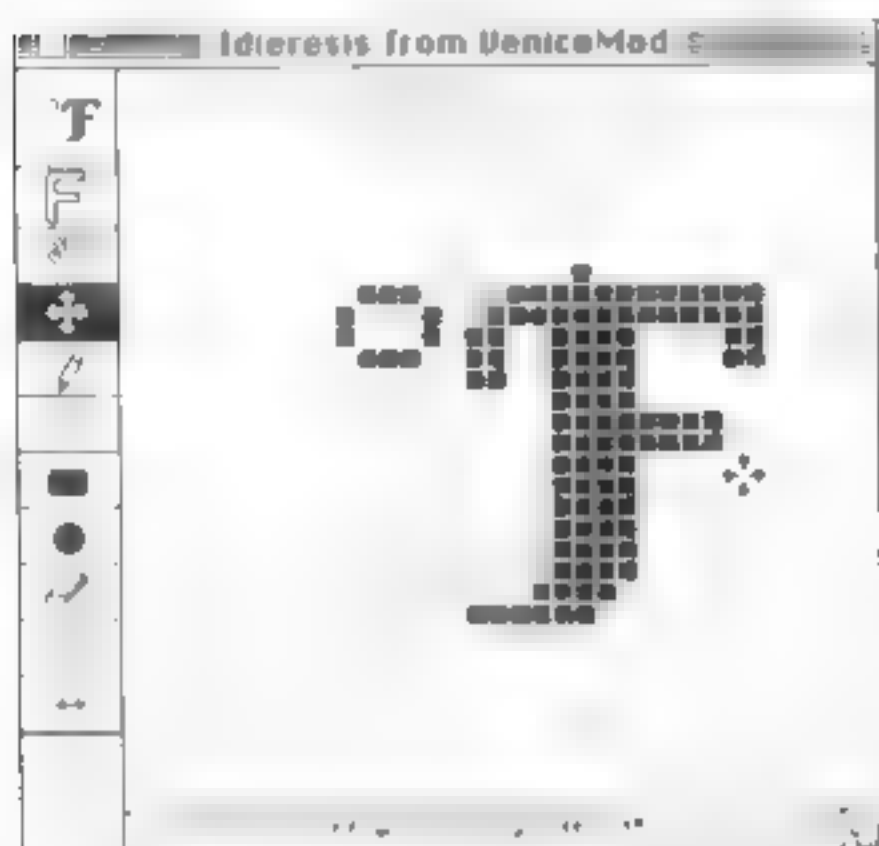
You'll also need to adjust the width of the character since now the character falls to the right of the width guideline

- Select the width tool from the tool palette

• Click on the width line and drag it to the right until it is one fatbit to the right of the rightmost dots of the letter "F"
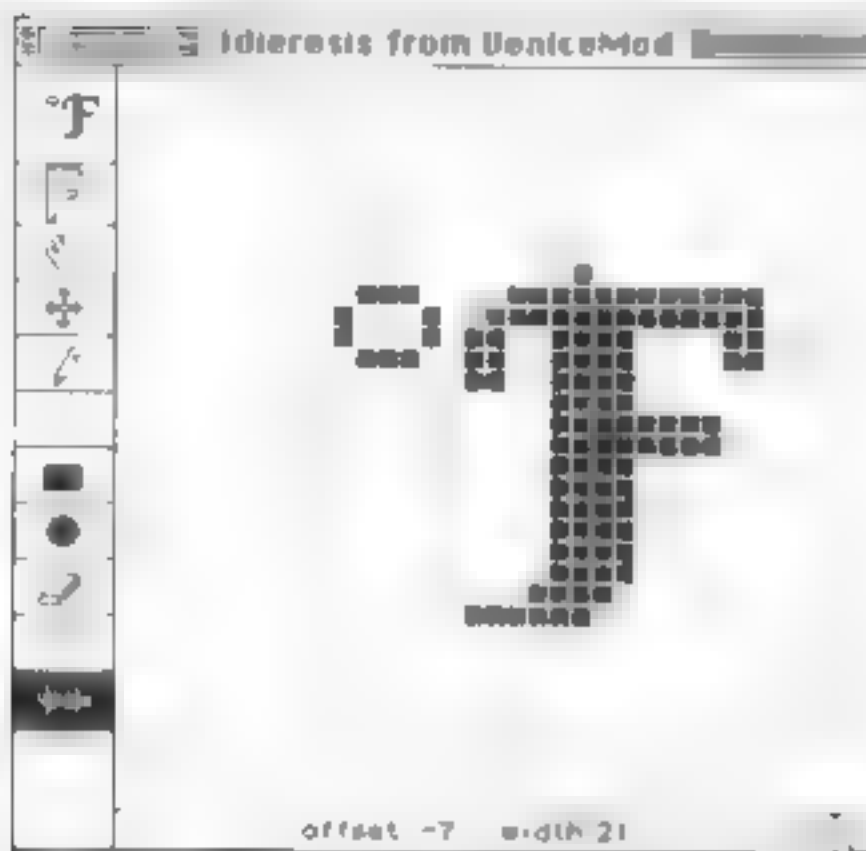
This change will give the character more room when it is typed

• Check the F in the sample window again

The characters in the sample reflect the changes you made to the origin and width. Is there enough space between the characters now? If not, adjust the origin and width again

Congratulations! You've just created a new character

Saving Your Edited Font

You have created your new character using the Venice 24 font. To keep your original Venice 24 font unchanged you can save the font containing the new character under a new name

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- Activate the font window (the one with all the characters) by clicking anywhere in it

- Select **Save a copy as...** from the **File** menu.

- Type in the name **VeniceMod** (for modified Venice)

- Press the tab key to skip over the size

- Type in the Font ID "200".

The message at the top of the window tells you that your new font will be saved into the **Fonts** file.

- Click on **Save**

VeniceMod is now saved in the **Fonts** file and FONTistic Plus then returns you to the font window

Installing Your Font onto Another Disk

There are two convenient ways to install your font onto another disk

1 You can use the **Save a copy as...** command or

2 You can use file windows and the **Edit** menu commands **Copy** and **Paste**

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Since we're on a tour, we'll use the **Save a copy as...** command to install your new font into the System file on your MacWrite disk, and the file window to remove the font from the System file on the MacWrite disk.

• Make sure the font window containing your modified Venice is still selected and that you are not in MultiFinder. The reason you must not be in MultiFinder is that your System file is a file shared by all applications open under MultiFinder and its integrity must be preserved or those applications will get very confused. So don't mess with your System file while running MultiFinder.

• Select **Save a copy as...** from the **File** menu.

• Make sure the name is VeniceMod.

• Make sure the Font ID is 200.

• Click on **File**

• 1DD Click on **Eject** in the Altsys file directory window when it appears.

• 1DD Insert your MacWrite disk which contains the System File you wish to put the font into.

• 2DD Click on **Drive** to transfer to the MacWrite disk. If MacWrite is not on this disk, click **Eject** and insert your MacWrite disk into this drive.
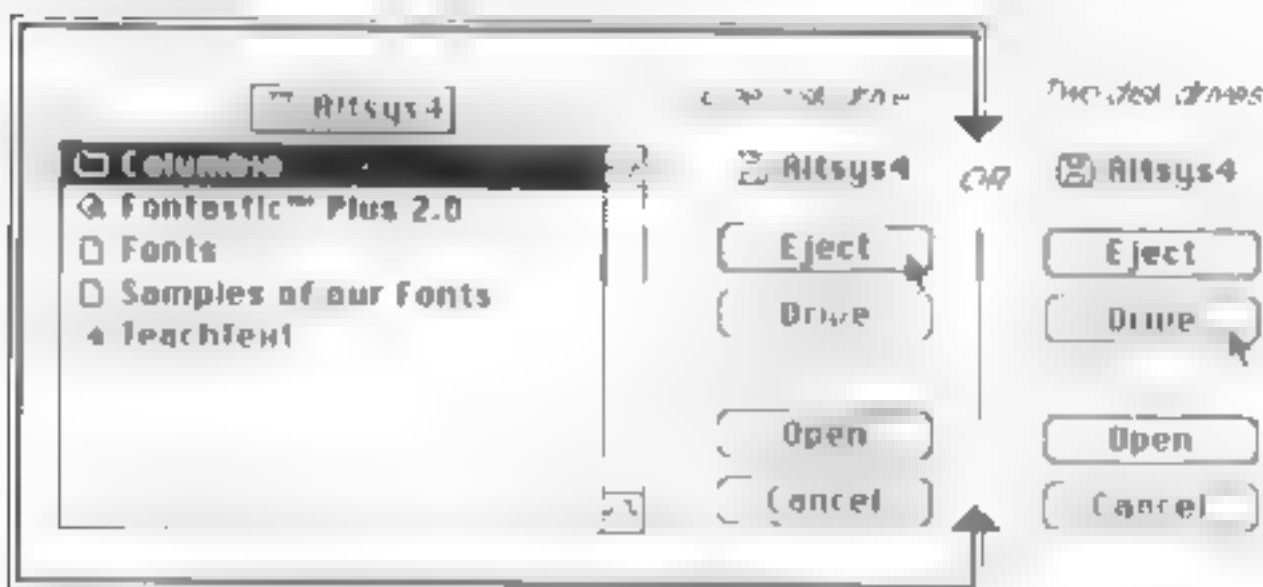
- Find the System file in the System Folder on your disk and double-click on its name to open it

The **Save a copy as...** window will reappear. Note that now **Save current font onto:** has "System" after it, rather than "Fonts."

- Click on the **Save** button

- /1DD/ You'll be asked to swap disks.

- Your VeniceMod font is now saved into the System file on your disk. You can use the font anytime you use any application with a Font menu and that disk is your System disk.

Quitting FONTastic Plus

Now you can leave FONTastic Plus to try out your new character in MacWrite.

- **Close** the font window

A Save window appears asking if you want to save the changes to font VeniceMod-24.

- Click on **No** since you have saved a copy of this font into the System file already and don't want to overwrite the original Venice-24 in the Fonts file.

- Select **Quit** from the **File** menu

- /1DD/ Eject the FONTastic Plus disk; insert the MacWrite disk

Using the New Font

• Open MacWrite from the disk you installed the font onto

• Choose VeniceMod in the **Font** menu
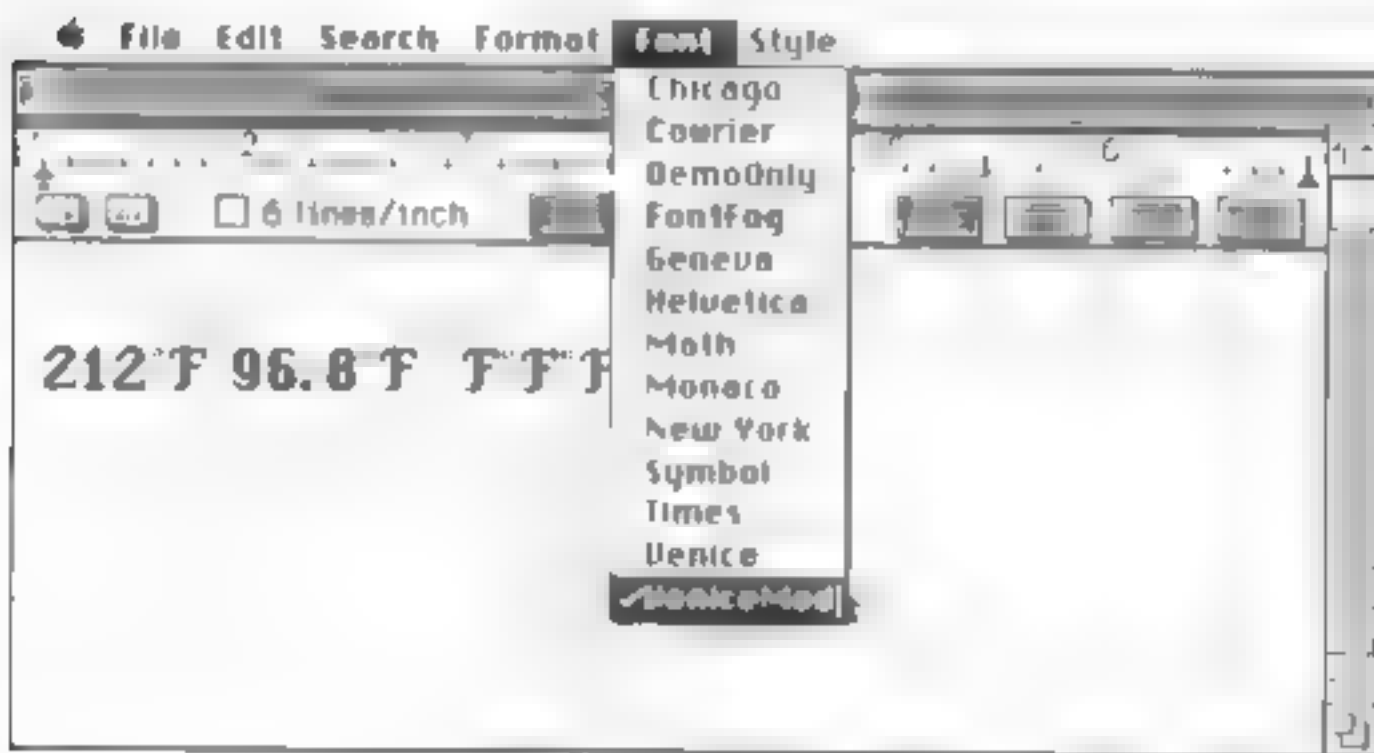
• Type shift-option-F to try out your new character

• **Quit** MacWrite when you tire of typing this letter

Now you know how to make a new character in FONTastic Plus and you can go ahead and create more of them. If you would like to keep this modified Venice FONT, read the summary.

But if you don't want to leave this font in your System file, read on.

Removing Your Font from the System File on the MacWrite Disk

• /1DD/ Reinsert the FONTastic Plus disk

• Open FONTastic Plus by double-clicking on its icon

First the introductory screen (click) then the Standard File
Selection window will appear

- 1DD Click the **Eject** button in the window. Then insert
  your MacWrite disk. Notice that the name of the directory
  changes to the name of the MacWrite disk

- 2DD Click Drive to select the drive containing your Mac
  Write disk
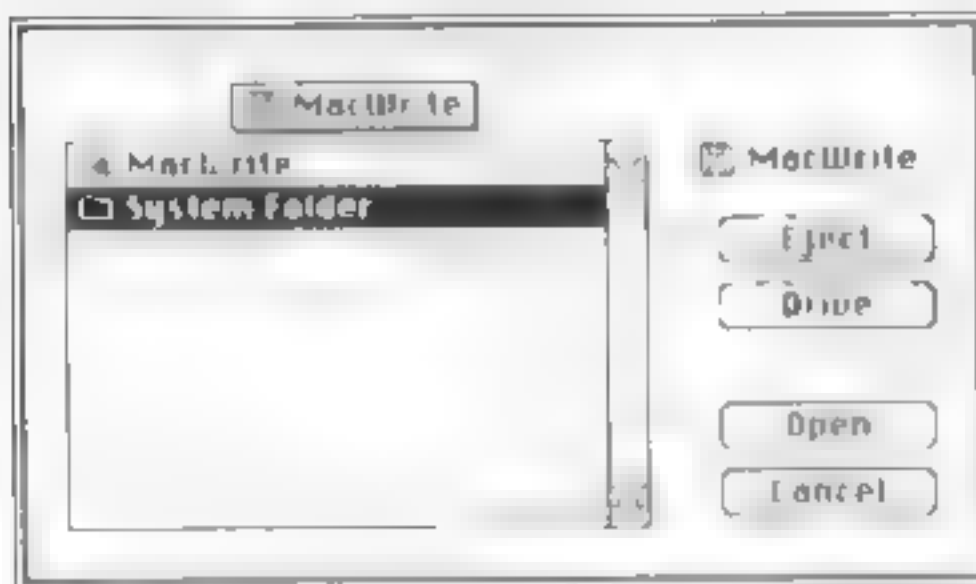
- Find and open the System file (in the System Folder on a
  hard disk)

- /1DD/ Swap disks as you are asked to.

- The file window will appear
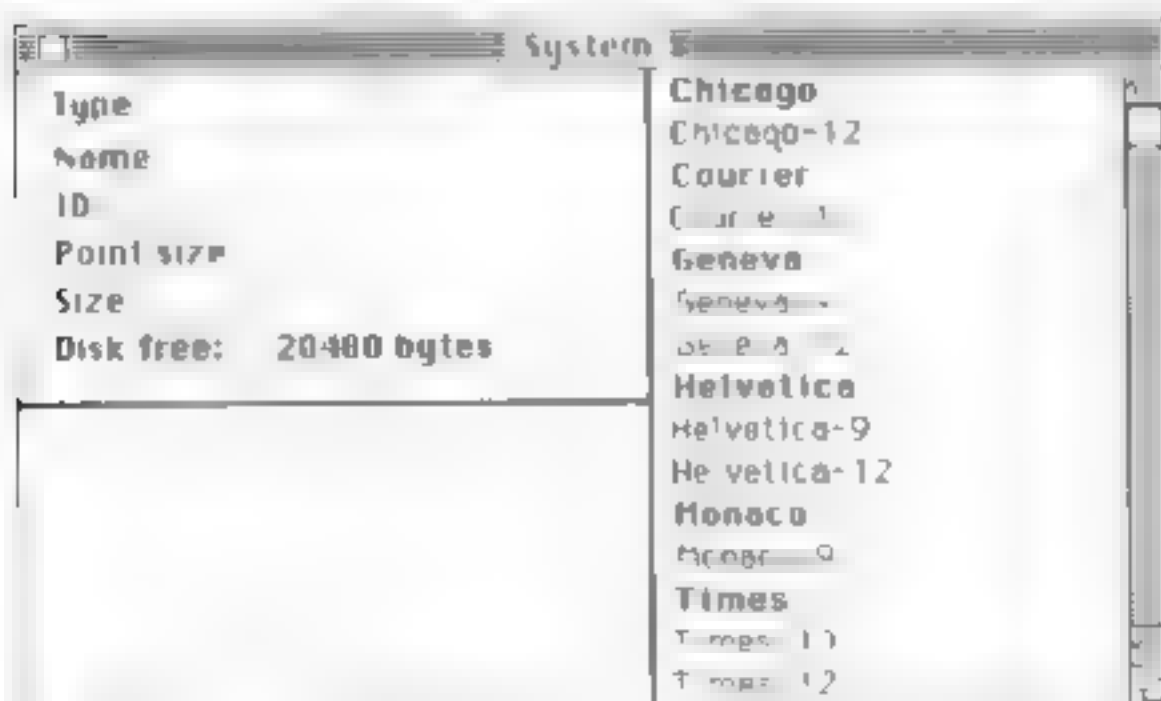
The column on the right now contains a listing of the FONTs FONDs, and NFNTs you have in your System file. Your listing may look different, depending on what you've installed in your System file.

- Select the VeniceMod FOND from the list.

- Select **Clear** from the **Edit** menu

- A dialog will appear that asks you if you really want to remove VeniceMod. Click **Yes**

- **Close** the System file by clicking on the close box

Removing Your Font from the FONTastic Plus Disk

- Select **Open file...** from the **File** menu and open the Fonts file

- Select the VeniceMod FOND from the listing of FONDs in "Fonts."

- Select **Clear** from the **Edit** menu

A box appears asking if you want to remove VeniceMod

- Click **Yes**

- You may now exit FONTastic Plus by selecting the **Quit** command from the **File** menu

Summary

We hope you've enjoyed this tour and that you've caught a glimpse of how useful FONTastic Plus will be to you in the future. You have learned how to get into FONTastic Plus, add a

character to a font, save a font, copy a font into an application file (the System file - your computer's most important application) remove fonts and exit FONTastic Plus.

If there are any sections that you do not completely understand, feel free to go back through them. If you are ready to learn more about FONTastic Plus, turn to the extended tutorial provided in Chapter 5. However, if you are ready to turn your creativity loose, turn to the the reference section.

Enjoy!

Chapter 2

About Macintosh FONTs, FONDs
and NFNTs

Chapter 2
About Macintosh FONTs,
FONDs and NFNTs

In this chapter you will learn about the features of Macintosh
FONT, FOND and NFNT resources. Then you can use these
concepts to create professional looking typefaces. You will also
find some hints for using typefaces effectively.

Fonts

A font on the Macintosh is a complete alphabet of any one
type design in a given size. Fonts include upper-case and low-
er-case letters, numerals, punctuation marks and symbols. The
maximum number of characters possible is 256 but you do not
normally have to make your fonts that large, and besides, the
Macintosh won't let you use more than 223 of them.

Thousands of different typefaces exist, each creating a differ-
ent effect. The figure below shows a sample of the faces pro-
vided with FONTastic Plus in the Fonts file.

Русскиан (Russian)

Scan

MILJ.K

New York Nights

TINY

Broadway B

25
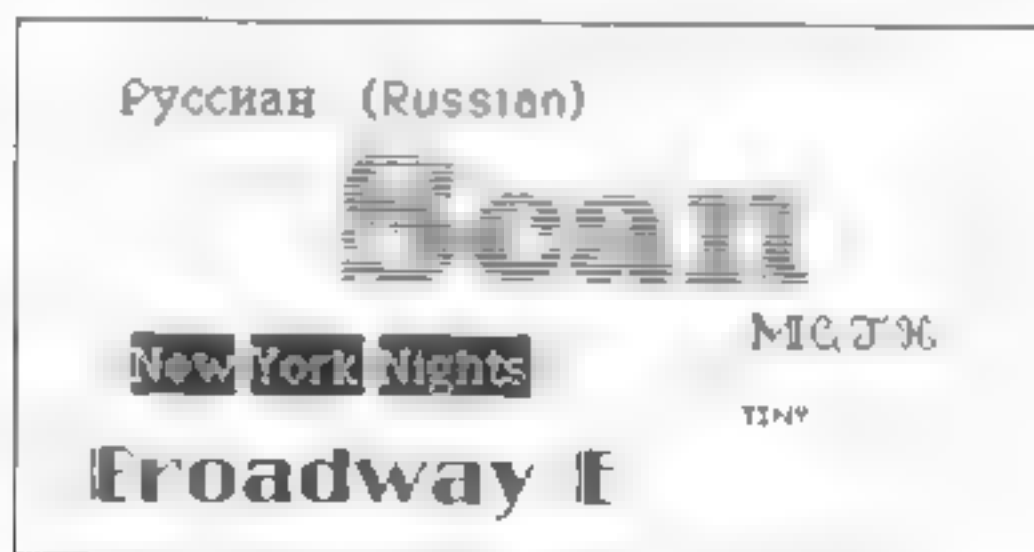
Typeface Characteristics

All typefaces have standard characteristics. Varying these characteristics helps to create faces with unique identities. These characteristics include the following:
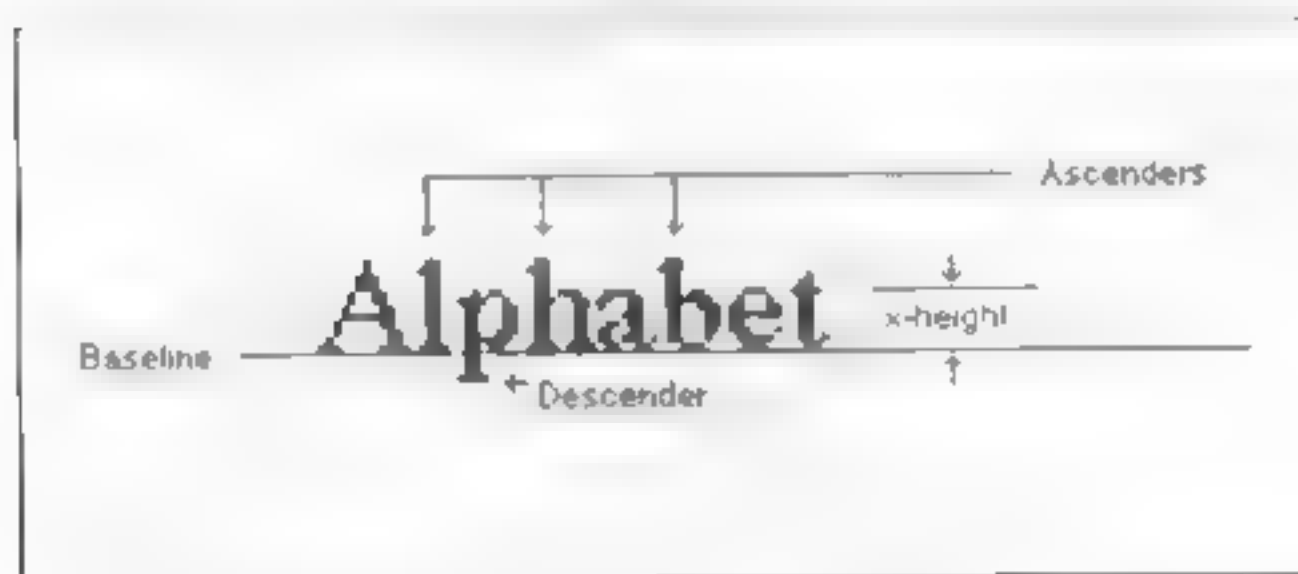
Baseline. The baseline is an imaginary line on which the capital letters rest.

X-height. The x-height is a measurement equal to the height of the main body of lower-case letters (such as "x") not including ascenders or descenders.

Ascender. The ascender is the part of such letters as "h" and "b" that extends above the x-height.

Ascent. The ascent is the distance from the baseline to the top of the highest character in the font.

Descender. The descender is the part of such letters as "p" that extends below the baseline.

Descent. The descent is the distance from the baseline to the bottom of the lowest descender such as the bottom of the "p."

About FONTs, FONDs and NFNTs

Leading. (pronounced "ledding.") Leading is the amount of space between lines. When the descenders of one line touch the ascenders of the line below, there is no leading. Many Macintosh programs ignore any leading set in the font and impose their own. If you notice your leading settings being ignored, it's probably your program that is doing the ignoring.

Origin and Width. The origin and width determine how much horizontal space is allotted to a character. The origin marks the left boundary and the width determines the right boundary of that space.

Normally there is some blank space before and after the character. (The blank space before the character is called "offset.") But sometimes the character itself takes up all the space. And sometimes there is less space allotted than the actual character needs. Then the character will overlap the character before or after it. See "kerning" below for a discussion of overlapping to the left of a character.

Kerning. Kerning is a printer's term to describe overlapping characters. Long ago, when printing was done with metal type, certain letters were notched to fit together more closely. Letter pairs such as "To" would be kerned together so that the "o" would nestle under the cap of the "T." Things are easier these days. With FONTastic Plus you make the adjustment electronically instead of grinding down a tiny piece of metal type.

We use the term kerning loosely here, in accordance with Apple's font terminology. A single character can be kerned into its other characters as described below. In chapter 4 we describe kerning pairs, where a character kerns differently depending on the character it is adjacent to.

Kerning of a character with all other characters is set simply by adjusting the origin so that part of the character lies to the left of the origin marker. That part extends into the space given to the preceding character and is said to kern into the preceding character. Similarly, a character may extend to the right of the width line so it kerns into the following character.
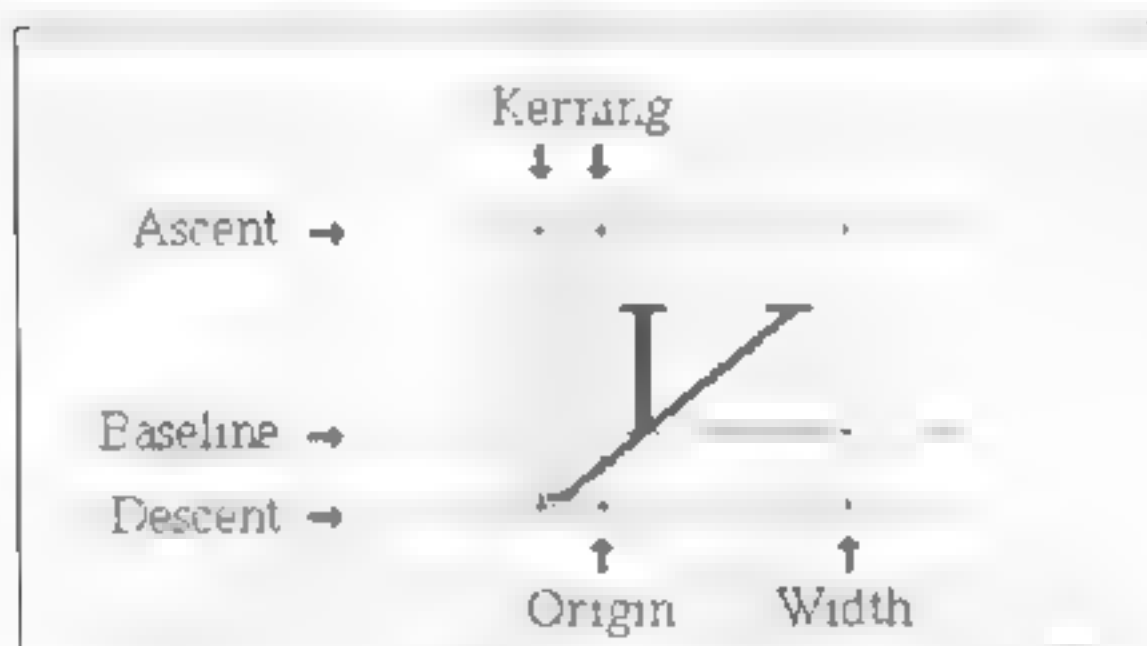
In FONTastic Plus the character origin and width are determined in the edit window. The **Font Attributes...** item in the **File** menu controls the ascent, descent, baseline, and leading. Kerning is determined in either the edit window (all characters) or the metrics window (kerning pairs).

Point Size

A point is simply the printer's term for 1/72 of an inch (approximately). If you are looking at Geneva 12, for example, the font's point size is 12 points or 12/72 of an inch. Normally that size is the distance between the ascent line and the descent line. Apple, however, often defines point size as the distance from one ascent line to the next ascent line (in single spaced text). Thus in some cases the point size includes leading.

Serifs and Sans

Two basic kinds of typeface are serif and sans serif. Serif faces have small cross strokes (serifs) at the top or bottom of the main stroke. Sans serif faces do not. The figure below illustrates the difference between serif and sans serif typefaces.

No
Serifs < M   M > Serifs
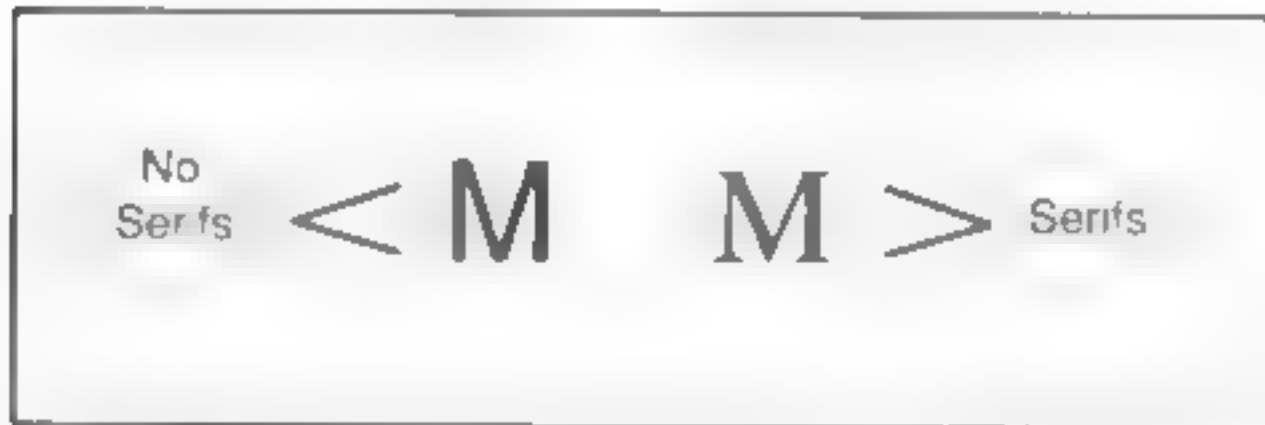
The "M" on the left is sans (without) serifs. The "M" on the right is from a face with serifs.

Hints for Using Typefaces Effectively

The hints below are from experts in the use of typefaces. Follow them if you want to use the faces you create with FONTastic Plus in the creation of visually effective documents.

1. For text, serif faces are usually better. The serifs help guide the eye along the line of text, making it more readable.

2. Use a 10 or 12 point size face for more readable text.

3. Avoid using all capitals for emphasis or for headings. Instead, use italics in text and boldface or a larger point size for headings and subheadings.

4 Mix and match font typefaces carefully. Too many varieties create confusion. A good rule of thumb is: Never use more than three typefaces on a single page."

5 Avoid mixing different faces with extremely contrasting shapes such as pronounced curves or exaggerated serifs.

6 Rather than creating variety through mixing different faces, try creating variety by using bolding and italics, and by expanding or condensing type.

7 Avoid small sizes of reverse type (white type on a dark background). It is difficult to read. The New York Nights font is included here merely as an exercise to show off FONTastic Plus's capabilities.

8 Use a font with a large x-height for text. Because lowercase letters predominate in copy, their size affects the overall appearance of a font. A font with a large x-height is more readable.

9 When creating your own font, keep in mind that font characters should be uniform in such characteristics as angles, thick and thin parts of the stroke, and serifs.

If you want more information about creating a uniform and beautiful font, you may want to read a book on typography. Below are a few suggestions given by David S. Rose (CompuServe 70210,563)

First Principles of Typography by Stanley Morison. Cambridge: at the University Press, 1951.

Printing Types: An Introduction by Alexander Lawson. Boston: Beacon Press, 1971.

The Crystal Goblet; sixteen essays on typography by Beatrice Warde. Cleveland and New York: World Publishing Company, 1956.

Resources on the Macintosh

To understand the following dissertations on FONDs, FONTs and NFNTs you probably need to know something about Macintosh resources. A resource on the Macintosh is a little packet of structured data that has three identifying characteristics:

1 A resource type name of four ASCII characters (for instance FONT)

2 A resource ID number which can range between 0 and 32767 and must be unique within a given resource file

3 An optional resource name (for instance Geneva)

FONTs

The FONT resource is historically the oldest of the typeface related resources. Apple made the FONT resource obsolete in 1986 (with the introduction of the Macintosh Plus) by introducing the FOND/NFNT combination. However, many older programs still needed FONTs, so there are still plenty of them around. A FONT resource contains the bitmap images of all the defined characters in a particular size of a particular typeface. Because of technical issues, a FONT ID is limited to the range of 0-255. The resource name for a FONT is the name of the font. Geneva's resource name is (surprise!) Geneva. The original Macintosh programmers didn't think anyone would need more than 256 typefaces. Well, they were wrong and thus was born the FOND.

FONDs

Note: The FOND resource is used only by Macintoshes with the 128K ROM or greater. If you put fonts created with FONTastic Plus on an original (128K) Macintosh or a 512K unenhanced Macintosh, the FOND information is completely ignored. On all newer Macintoshes it is essential to have a FOND associated with all FONTs or NFNTs. If FONTastic Plus finds that such a FOND doesn't exist, it will tell you it is updating your FONT or NFNT to the FONTastic Plus version. All that happens is that the appropriate FOND is added to your face ensuring future compatibility *with Macintosh programs and Systems*

The FOND resource is a rather complex beast which contains information related to an entire family of FONTs or NFNTs (we'll get to that difference in the section on NFNTs) It contains a great deal of information related to spacing and kerning of the various FONTs or NFNTs attached to it. A FOND's ID is not limited to the old 0-255 range which limited a FONT's ID. FOND ID numbers can range between 0 and 32767 (except that numbers above 16383 are reserved by Apple). In practice however FONDs have retained the same ID as their corresponding FONTs. This correspondence does not hold when you convert FONTs to NFNTs. A FOND with NFNTs attached should have an ID number in the range 1024-16383. Apple reserves the range 3072-16383 for commercial typeface vendors so if you're creating faces for your own use use the range 1024-3071 for FOND IDs, otherwise contact the AppleLink address FONT REG and request an allocation of IDs

For example when you open up the Fonts file (supplied on the FONTastic Plus disk) with FONTastic Plus the FONTs Venice 12 and Venice 24 belong to the Venice FOND which appears in bolded type. When you edit a FOND in FONTastic Plus you are editing the width and kerning pair information for the entire family of Venice namely Venice 12 and Venice 24. Macintoshes with the 128K ROM (or better) look at this FOND for width information. If a width table has been created for this FOND by editing the FOND in the metrics window (see Chapter 4) the Macintosh uses the information

found in the FOND's width table instead of using the individual (integer) widths set in each of the FONTs. Many programs today require the existence of a FOND resource with properly set up widths. If you are experiencing spacing difficulties with typefaces created in FONTastic Plus, open the FOND's metrics window and use the **Effects** menu's **Set FOND widths from FONT** item. **Warning:** do this only to bitmap fonts, **never** to PostScript fonts.

In addition to width and kerning pair information, the use of FONDs and FONT families allows you to use specially created FONTs for stylistic variations like italic and bold. This allows you to get better quality printouts because, unless you create specially made (and better looking) styles of your own, the Macintosh will automatically derive the various style variations from the plain FONT, a process which can produce pretty ugly letters. FONTastic Plus's Effects menu lets you to create a styled version of a FONT which you then edit to make as smooth as possible. You can use the Altsys Family Builder program (see the section on the Family Builder in Chapter 5) to add this styled FONT to the FOND family, and from within applications you can select just the style option without having to change the actual font selection. If you convert your FONTs to NFNTs you can use FONTastic Plus's own internal version of the Family Builder which allows you to **Save as. . .** your new styles as NFNTs, allowing your Macintosh to use your edited styled version instead of automatically deriving its own.

NFNTs

An NFNT is internally exactly the same as a FONT. It differs from a FONT in that it has the resource type name of NFNT and its resource ID number is not numerically related in any way to the ID of the FOND it's connected to. The resource IDs of NFNTs may change every time they are moved with Apple's Font/DA Mover or FONTastic Plus and thus can be considered essentially random. The family FOND of a family of NFNTs contains a list of all the NFNT IDs that are related to it. This list is what gets changed any time the family is moved from one file to another.

FONTastic Plus 2.0 allows you to convert FONTs to NFNTs with the **Convert family to NFNT** item in the **File** menu. Families of NFNTs normally have only one FOND resource to tie them all (including all stylistic variations) together. According to some rules promulgated by Apple Computer this FOND resource should have an ID number between 1024 and 16383. We advise you to convert all the FONTs you create with FONTastic Plus to NFNT families so as to avoid the FOND ID conflicts that can occur if you have many type faces installed in your System. If you are using Word Perfect 1.0.x do not do this because Word Perfect 1.0.x does not recognize NFNTs.

If you are technically inclined you might investigate **Inside Macintosh** Volume I pp 215-232 and Volume IV pp 27-45. Another source of useful information is Macintosh Technical Notes #191 and #198 which are available for downloading from GEnie, CompuServe and AppleLink.

Chapter 3

Extended Tutorial

Chapter 3
Extended Tutorial

In this chapter you'll learn about many of FONTastic Plus's other capabilities, including

> How to create a new font file
> How to move fonts between files
> How to create new fonts
> More extensive editing techniques
> > a) for the entire font
> > b) for individual characters
> How to print a sample of your font

If you want to take full advantage of the advanced features that FONTastic Plus offers, you'll want to work through this extended tutorial. You'll learn some hints and shortcuts that will make typeface editing more efficient and more fun.

Creating a New File

This section shows how to create a new file for storing fonts. Such files can store FONTs, FONDs and NFNTs and may be given any name.

- Enter FONTastic Plus by double clicking on the FONTastic Plus icon, then clicking on the introductory screen.

The standard file selection window will appear.
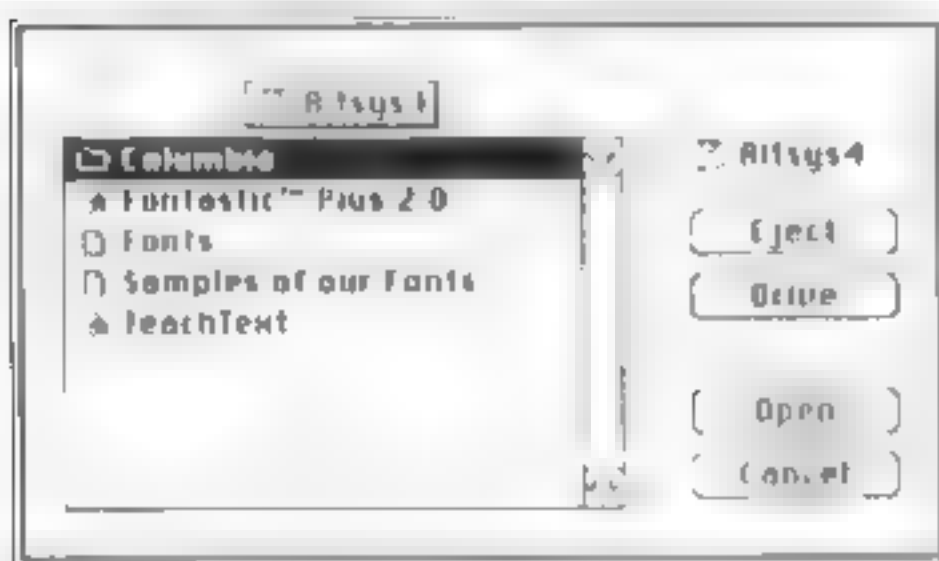
- Click on **Cancel** since we want to create a new file instead of opening up an existing file.

- Select **New file...** from the **File** menu.

A standard file selection window will appear and FONTastic Plus will ask you to enter the name of your new file.

- Type in "MyFile" as the name of your file and click in the **Save** button.

A file window titled "MyFile" opens up. There are no fonts listed in the selection list since we have just created the file.

Type
Name
ID
Point size
Size
Disk free: 15360 bytes
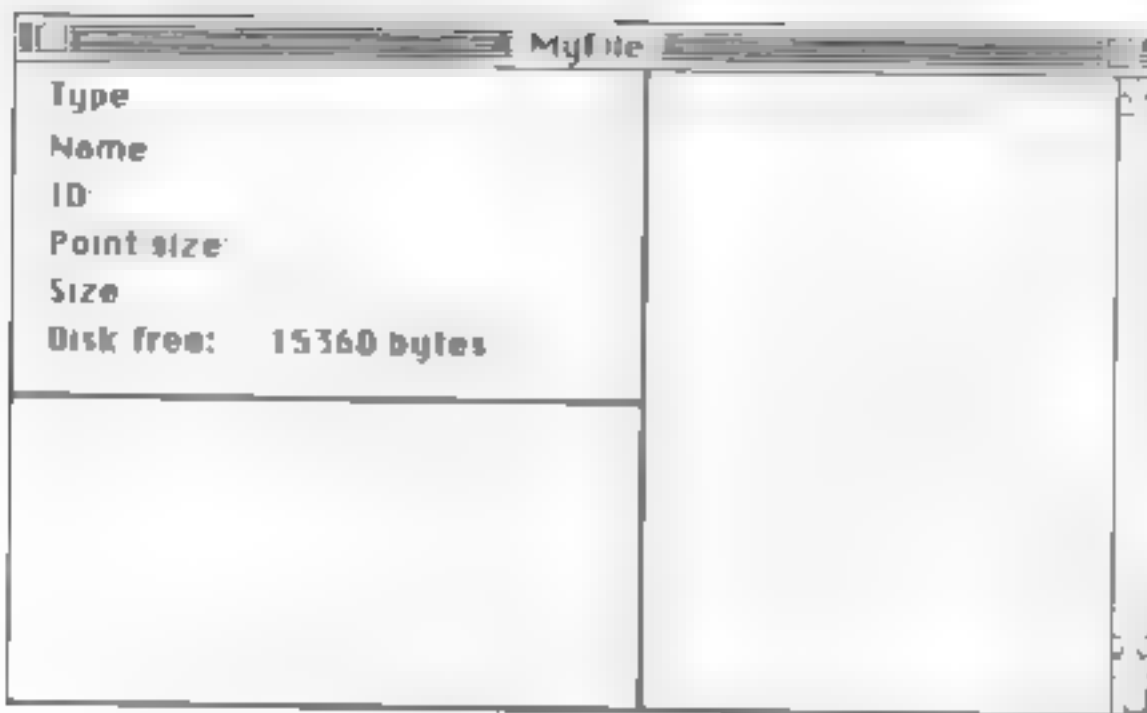
Copying a Font from One File to Another

Whenever you wish to edit a font that resides in your System file, we advise you to first copy it into a separate file before you start to edit, and edit in that new file. In fact, the System font "Chicago 12" which is used by your Macintosh for its messages cannot be edited in the running System file (and cannot be changed on Macintoshes with 128K ROMs or better without a special patch available from Apple). Therefore you must copy this font to a separate file before editing.

Now that we have created a file we are ready to add fonts to the file. For this example, you will copy several fonts from your System file to your newly created file, MyFile.

· Select **Open file...** from the **File** menu

The file selection window appears

- · 2DD. Make sure your system disk is in the internal drive and click on **Drive** until the drive containing your system disk appears in the directory

- · Find the System Folder on your disk, open it, then select the System file and open it

A second file window titled "System" opens up on top of the file window titled "MyFile" (the topmost file window is the active one) We can now copy several of the fonts from the System file and paste them into MyFile

- · Select the fonts Geneva 10 and Geneva 12 by pressing the mouse button down on one name and dragging to the next Both fonts are highlighted and the amount of disk space needed by both fonts is indicated in the top left corner next to **Total space** (If you do not have Geneva 10 and Geneva 12 in your System file, substitute any other fonts)
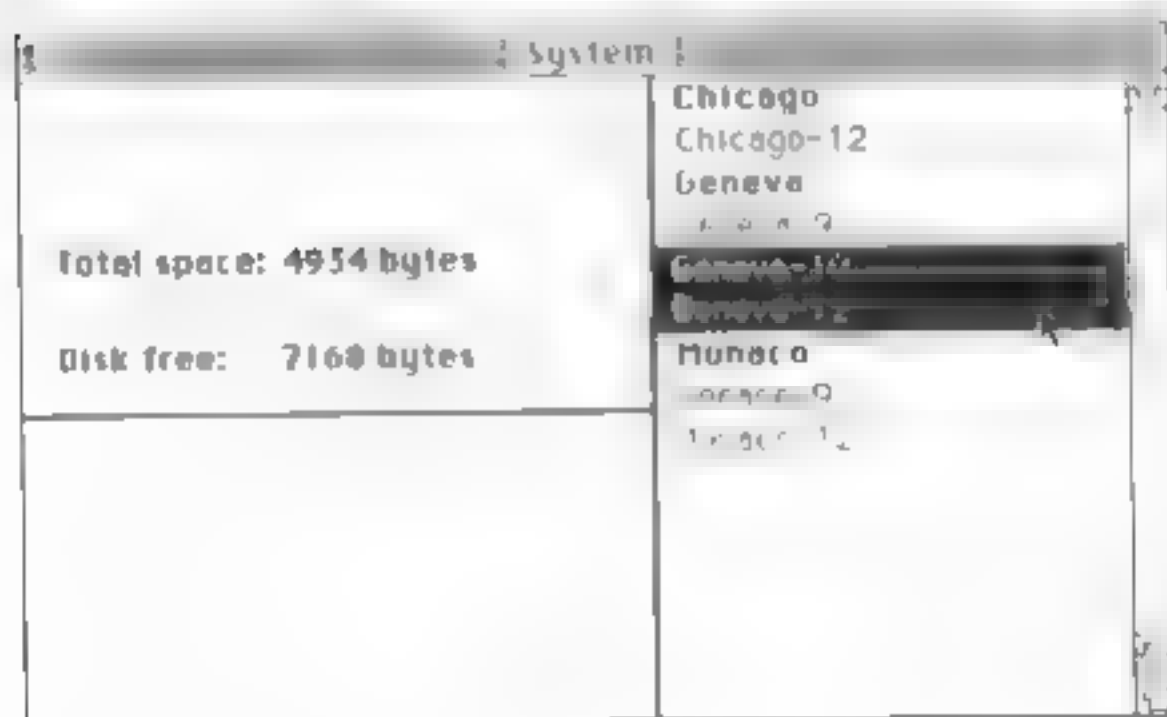
• Select **Copy** from the **Edit** menu.

This copies both of the FONTs and any FONDs that are associated with those FONTs. (Only relevant FOND information is copied)

• Reactivate the file window "MyFile" either by clicking on an exposed portion of the window or by using the **Windows** menu. Do not close the System file window. It must remain open for the following **Paste** to work properly.

• Select **Paste** from the **Edit** menu.

• If there is not enough disk space available to copy the fonts into MyFile, an alert appears indicating the paste cannot be completed. You then need to transfer MyFile to another disk before copying and pasting the fonts.

You then see the FOND **Geneva** (in bold lettering) and Geneva 10 and Geneva 12 listed in MyFile's selection list.

Copying a FOND from One File to Another

We have just seen how to copy fonts between files. It is also possible to copy an entire FOND between files. When you copy a FOND, FONTastic Plus copies the FOND information, all associated FONTs belonging to that FOND, and other FONDs associated with the family of FONTs all in one operation.

• Reactivate the "System" file window

• Select the FOND Monaco (in bold lettering with no size appended)

• Note the space used by the FOND and all its associated FONTs. This information is given next to **Size:** in the upper left hand corner of the "System" file window. This figure is the amount of space that the paste operation may need. Sometimes it may need less space. FONTastic Plus deter-

mines the exact amount of space at the time of the paste operation

- Select **Copy** from the **Edit** menu.

- Reactivate the "MyFile" file window

- Select **Paste** from the **Edit** menu

- If there is not enough disk space available to copy the entire FOND to this file, an alert appears informing you that the **Paste** cannot be completed. You should delete some files on this disk to free up more space and retry the **Copy** and **Paste**.

You'll then see the FOND name and all associated FONTs in the selection list part of the file window for MyFile. (In this case Monaco, Monaco 9, Monaco 12, and any other sizes of Monaco that you may have in your System file.)

Removing a Font from a File

You may wish to make more room on your FONTastic Plus disk by removing a font you no longer need. Make sure you have an archive copy of the font elsewhere, then follow these steps to remove the Monaco 9 font from MyFile:

- Select Monaco 9 from MyFile. Scroll to find it if necessary.

- Select **Clear** from the **Edit** menu

A dialog box will appear, asking if you really want to remove the selected fonts.

- Click **Yes**

The font Monaco 9 disappears from the font selection list in MyFile, and the FOND Monaco gets updated appropriately.

Note: Certain System fonts (like Chicago 12) are necessary to the Macintosh and cannot be removed. You'll see an alert dialog if you try to remove one of these fonts. You should never under any circumstances remove fonts from the System while running MultiFinder. Doing so could be harmful to the health of your System file.

Removing a FOND from a File

At times you may wish to eliminate an entire family of FONTs or NFNTs. When you remove a FOND from a file FONTastic Plus also automatically removes all associated FONTs or NFNTs belonging to that FOND's family.

Note: If a font belongs to more than one FOND it will not be removed. You may separately select such a font and remove it, causing all its parent FONDs to be appropriately updated.

Make sure you have the fonts archived somewhere, then follow these steps to remove the Monaco FOND and its FONTs from MyFile:

• Select the FOND **Monaco**

• Select **Clear** from the **Edit** menu

A dialog box will appear asking if you are sure you want to remove the selected fonts.

• Click **Yes**

FONTastic Plus will remove the FOND and all associated FONTs (in this case Monaco, Monaco 12 and any other sizes of Monaco) from MyFile

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Moving Fonts In and Out of System and Application Files

You can move fonts into or out of either a disk's System file or an application in the manner demonstrated in the quick tutorial in Chapter 1.

You can customize an application (program) by adding fonts to its application file. Fonts added to an application are only available while you are using that application. If you customize an application with a font already found in the System file, don't worry. The application automatically uses your installed font, not the one in the System.

The process of copying a font into an application is almost the same as removing one.

· **To Copy:** Open the file which contains the font you wish to copy. Select the font name and then select **Copy** from the **Edit** menu. Now select **Open file…** from the **File** menu again to open the destination file.

· Find and open the System file or an application file (such as MacWrite) you wish to copy the font into

· The tile window containing the selection list will appear. It now contains a listing of the FONTs, FONDs and NFNTs that are in that application or system. Note that none of your disk's System fonts (such as Monaco) are listed in an application. Some applications may have unnamed fonts defined. These are normally used for tool palettes and usually should not be changed. Never delete such a font.

```
┌──────────────────── MacWrite ────────────────────┐
│ Type                                              │
│ Name                                              │
│ ID                                                │
│ Point size                                        │
│ Size                                              │
│ Disk free:    37888 bytes                         │
│                                                   │
│                                                   │
└───────────────────────────────────────────────────┘
```
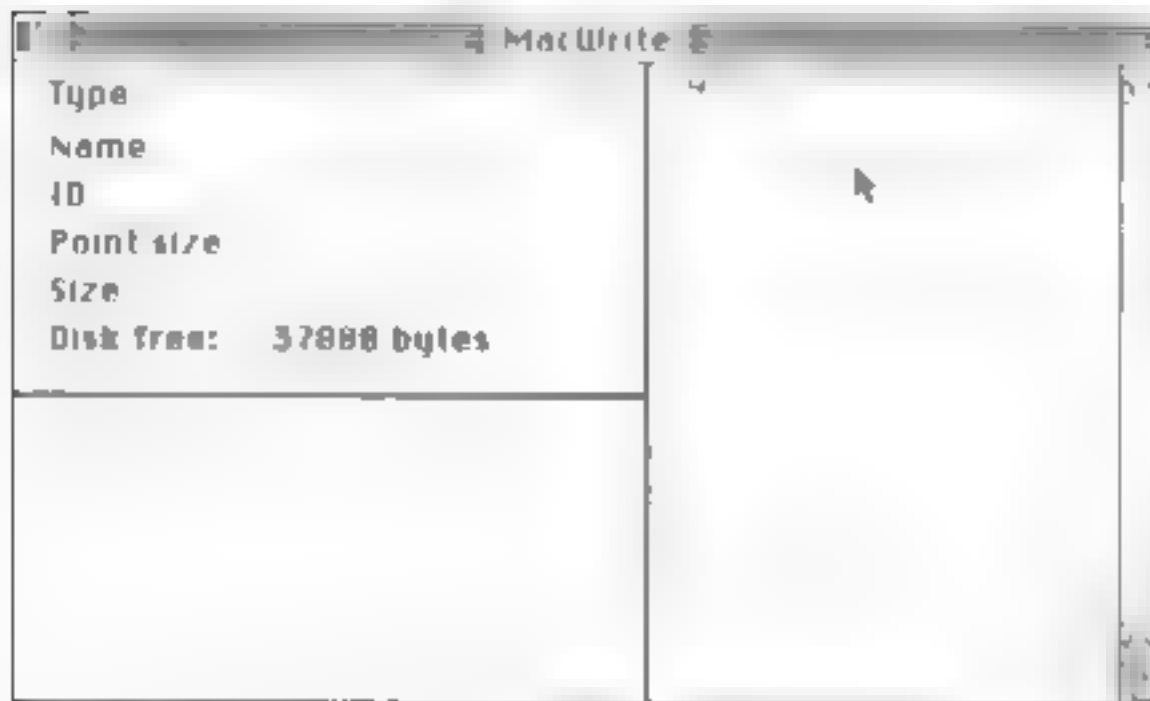
· After making sure the application or system file that you want to copy the font into is the active window (i.e. on top) select **Paste** from the **Edit** menu. The font is then copied to this file.

Note: If you are **Copy**ing a font with the same name and point size as one already in the application you are asked if you want to replace the existing font

The copy of a FONT/NFNT maintains the same ID and point size as the original. If necessary (in case of a duplicate ID) FONTastic Plus will assign a unique new ID automatically when the system or application you are pasting into already has a FONT/NFNT with the same ID

- **To Remove:** Open the file or application which contains the font you wish to remove. Select the font name and then select **Clear** from the **Edit** menu. Do not remove fonts which have no name (such as 12) or those which you did not previously install. Some applications use fonts for tool palettes and removing those fonts would damage the application. FONTastic Plus cannot **Revert** a font removal so be sure you know what you're doing before attempting this.

Editing or Creating Fonts

Now that you have learned how to move fonts around, it is time to delve deeper into the font editing process.

Do you want to copy special characters from one font to another? Or quickly create a different size for your font? Or style the whole font with bolding, italics, shadowing, etc.? Do you want to create a new font? This section will teach you how to do all of the above and much more.

Working with Large Fonts

Before starting, you should note that there are some limitations on the size of the fonts you can create or work with. You will sometimes receive a warning should your font exceed 32767 bytes. It's usually pretty safe to ignore the warning.

Macintoshes with the Old (64K) ROM

If you are using a Macintosh with 64K ROM, limit your fonts to a maximum size of 32767 bytes. Larger sizes do not work on these machines.

This is a generous size for most ImageWriter II fonts but you may have to split up a larger font like those for the ImageWriter LQ. For example, you may have to put capital letters and numbers in one font and lower case letters and special symbols in another.

All other Macintoshes

You may create fonts as large as 250K bytes on all other Macintoshes. However, such large fonts are not compatible with 64K ROM machines and some few applications.

Setting Up a New Font

To set up a new font, do the following:

· Activate the file window of the file into which you wish to put your new font.

For this example place the new font into the Fonts file supplied on the FONTastic Plus disk. At this point it would be a good idea to close all other file windows that are currently open so as to reduce screen clutter. If necessary, open the Fonts file on the FONTastic Plus disk using the **Open file...** command in the **File** menu.

The file window containing the selection list will appear:

	Fonts	
Type:	**Broadwey E**	
Name,		
ID:	**Cairo**	
Point size:	Cairo-36	
Size:	**KeyMap**	
Disk free: 10752 bytes	KeyMap-12	
	Math	
	Math	
	Math	
	NY Nights	
	NY Nights-12	
	NY Nights-24	
	NYItalic	
	Russian	
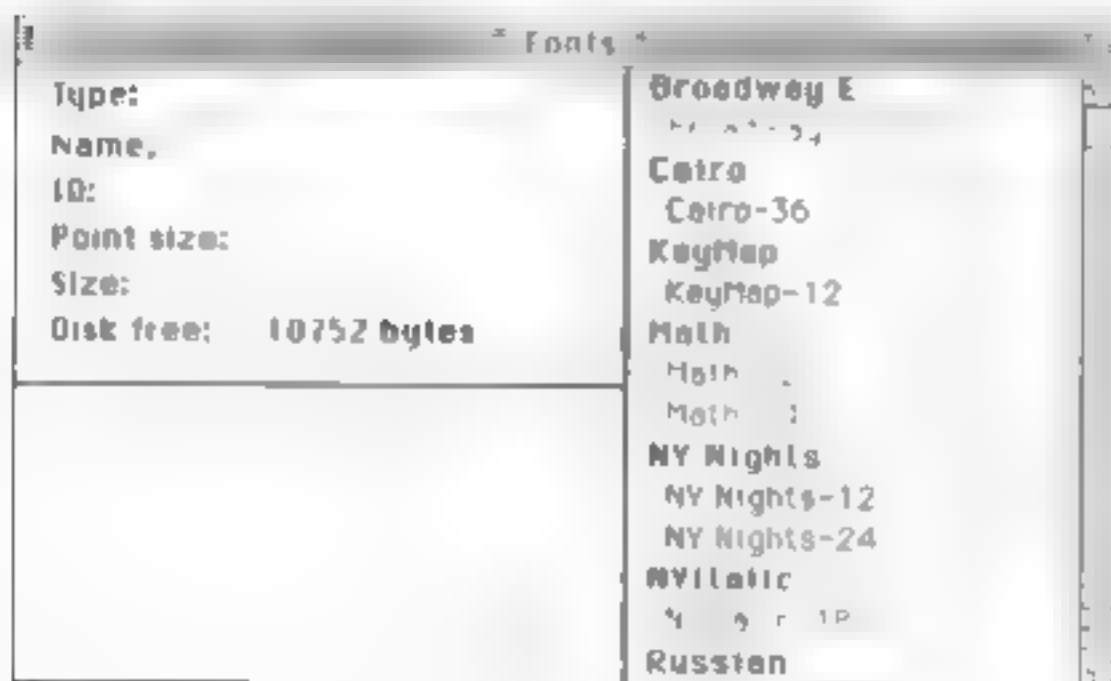
• Select the **New font…** command from the **File** menu

A window will appear with a default point size of 12

```
Create new font

Size    [14 ]

   OK          Cancel
```

• Click **OK**

FONTastic Plus will create an unnamed 12 point font and open it for editing. Note that the ascent, descent and leading are automatically set for the size you selected. You will see the System font Chicago in the character boxes.

• Choose the **Actual** item from the **View** menu to see the blank boxes that will soon be filled by your font.

Copying Characters from an Existing Font to a New Font

One quick way to create a new font is to use characters from an existing font as a starting point. In this section we use this shortcut to demonstrate how you can copy selected characters between fonts.

• Reactivate the "Fonts" tile window and select the font Venice-12

• Open the font Venice-12 so we can copy characters from this font into the new font we are creating. We need to select the characters we wish to copy to our new font. The following section describes various ways characters can be selected.

Selecting Characters

Each character or group of characters you wish to work with must be selected. There are several ways to select characters

An Individual Character

To select a single character

• Find the character in the font window and click on it

Or

• Type the character on the keyboard

All the Characters in a Font

To select all the characters in the font, you need only one command

• Choose **Select all** (⌘A) from the **Edit** menu.

A Range of Characters

A group of characters may be selected very quickly

• Place the pointer on the starting character of the group you wish to select. For our example, place the pointer on the capital A.

• Drag the pointer to the ending character of the group. For our example, drag the pointer to the capital Z

• If you need to extend the group, hold the **shift** key down while you drag over the additional characters.

FONTastic Plus will highlight the letters A through Z in the Venice-12 font window.
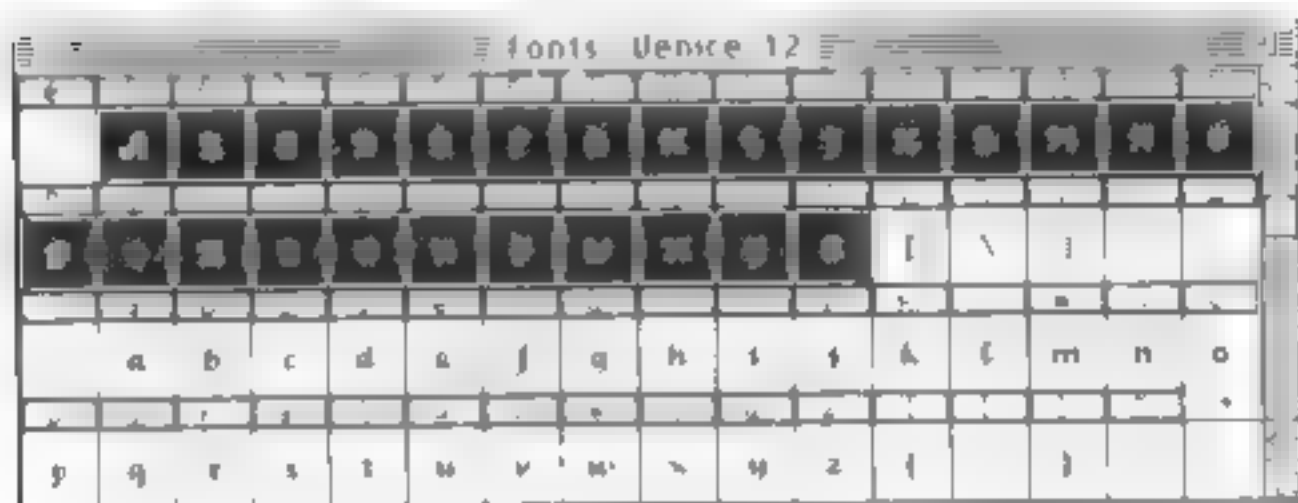
At this point we have selected the characters we wish to copy.

• Select the **Copy** command from the **Edit** menu.

• **Reactivate the "Untitled1-12" font window.**

• Select the character positions in the grid for capital A through Z as you did before. The character positions are empty but at the top of each character position in the grid there is a label to indicate which character is normally associated with that position. This label should be set to show the characters however if it is not you can switch this label to the characters by selecting **Key** from the **View** menu.

• Select **Paste** from the **Edit** menu. The characters are copied into these positions and appear in the character grid in "Untitled1-12".

Note: When you paste characters between fonts of different point sizes, hold down the **option** key while selecting **Paste** so that characters will be automatically scaled to the point size of the destination font. If you want an unscaled **Paste**, do a regular **Paste** without holding down the **option** key. You will probably need to touch up scaled characters.

Shuffling Characters Within a Font

The following steps are for trading the locations of two characters, but the principles are the same for any type of shuffle. Usually the shuffle is done to assign more logical key combinations to the characters.

- Select and **Cut** the first character

- Select an unused box

- **Paste** the character into it

- Select and **Cut** the second character

- **Paste** it into the first location

- Select and **Cut** the first character out of its holding area

- Select the second location and **Paste** the first character to it

Styling a Font

You can automatically style your selected characters with any of the standard Macintosh text styles, such as Bold, Outline, etc. This styling actually changes the characters and cannot be changed back to Plain except with **Undo** or **Revert**. It is useful for making a hand-tuned styled font such as the NYItalic 18 on the FONTastic Plus disk. FONTastic Plus also

gives you three additional options besides italic shadow bold outline and underline. They are as follows.

Expand

Expand adds one point to the width of each character. That means that the characters are spaced slightly further apart.

Condense

Condense reduces the width of each character by one point. It means that the characters are pulled a little closer together.

Invert

Invert reverses the color of a character and its background from black to white or vice versa. The Macintosh always prints a standard space character as a block of white. If you need black spaces between words use the **option** space key (also known as a non breaking space) or an otherwise unused character.

Steps to Styling

To style letters in your font follow these steps

• In the font window select the character(s) to be styled. For this example select the capital letters A through Z in Untitled1-12

• Select **Style...** from the **Effects** menu. A style selection window will appear

```
Effects
Scale entire font
Style...                    ►

Horizontal flip        ⌘,
Vertical flip          ⌘
Rotate                 ⌘

Set FONT widths from FOND
Set FOND widths from FONT
```

→

```
Select Style
    ☐ Bold          ☐ Shadow
    ☑ Italic        ☐ Condense
    ☐ Underline     ☐ Expand
    ☐ Outline       ☐ Invert
    ( OK )          ( Cancel )
```
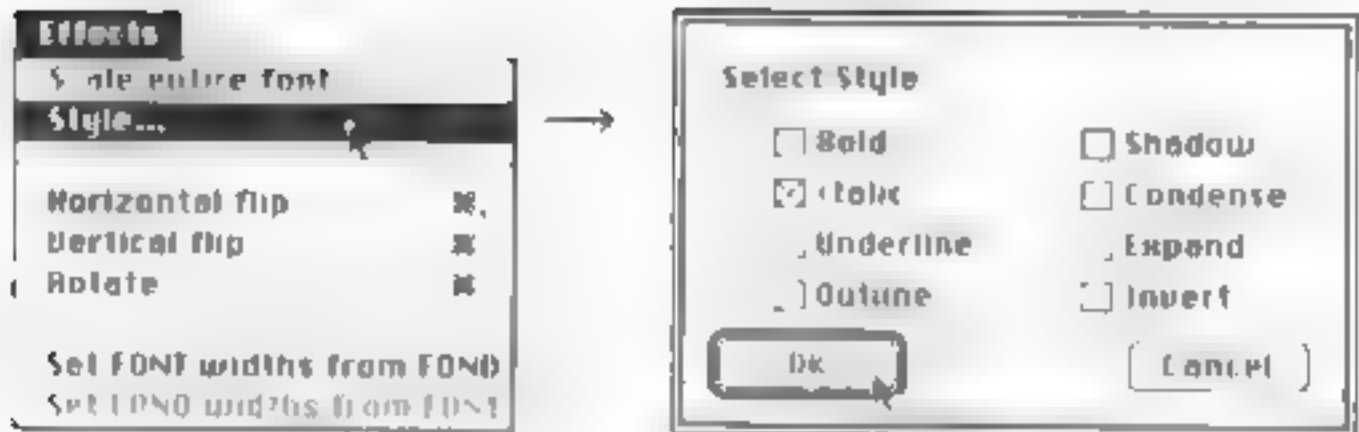
- Click on the box for each of the styling features you want applied to your font. For our example select **Italic**

- Click **OK**

- To see a sample of the changes you've made, select **New sample** from the **File** menu. Do you like your changes? If not, reselect the font window and **Undo**

Alternatives in Styling

If you want to make more changes or if you want to have a style applied again, select **Style** as many times as you wish. For example, you can create a super bold or super italic style by selecting Bold or Italic more than once, or you can make a BoldItalic font by selecting both Bold and Italic

- As an example, reactivate the font window for Untitled1 12 and select the capital A through capital Z characters

- Select the **Style** command from the **Effects** menu once again and choose **Italic**

- Click **OK**

You have now double italicized the new font. Reactivate the sample window to check the effects of this second style operation

If you were pleased with the outcome, you probably would want to polish the changes to make the font smoother. To do this you would need to touch up individual characters in the character window.

If you wanted to have both styled and unstyled versions of your font, select **Save as...** from the **File** menu. Do not do this now. We will demonstrate this later in the tutorial.

In some cases a styling operation can cause a character to extend outside the ascent and descent of the font. When this occurs an alert message will appear.

- Choose one of the following

  1. Have the program automatically fix the ascent or descent
  2. Proceed with the styling operation anyway, with the realization that some parts of characters may be lost
  3. Cancel the operation

Undoing and Reverting

Undo and **Revert** allow you to gracefully recover from mistakes or ideas which didn't work out. Each works a little differently.

Undo

When the font window is active, the **Undo** command in the **Edit** menu reverses the effect of just the last change made to the font. It does not undo earlier changes. Any editing operation (style, scale, paste, etc.) can be undone.

Suppose we decide we don't like the doubly italicized font that we just created and would rather have italicized it only once. We can do the following to obtain the effect we desire:

- Make sure the font window Untitled1 12 is the active window.

- Select **Undo style** from the **Edit** menu.

- Reactivate the sample window to see the effect of the **Undo**.

Redo

When the font window is active, the **Redo** command in the **Edit** menu reverses the effect of a previous **Undo** operation. If we had decided that we did like the doubly italicized font after all, we would merely select **Redo style** from the **Edit** menu. Note that unlike the character edit window, there is only one level of **Undo/Redo** from the font window.

Revert

When the font window is active, **Revert** allows you to throw away all changes made to the font since you started editing or since you last saved the font. We cannot do this now because our Untitled1 12 font hasn't been saved to disk yet. However, if you wanted to Revert you would do the following:

• Select **Revert** from the **File** menu

```
File
New file
Open file
New font          ⌘N
Open character     ⌘O

Close
Save              ⌘S
Save as
Save a copy as
Revert

Font attributes...  ⌘I
Convert family to NFNT

New sample
Open sample...
Page setup
Print sample
Quit              ⌘Q
```
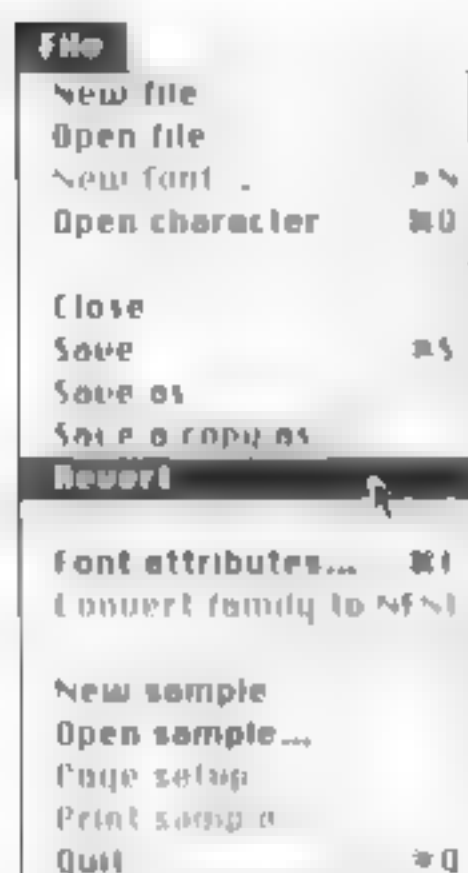
Because you cannot undo **Revert** a dialog box will appear asking, "Revert to the last version saved?"

• Either click on **Yes** or **Cancel** whichever is appropriate

Saving the Font

Now that we have created a 12 point italic font that we are satisfied with, we should save what we have done so far. Since we still want to work with the font after saving it, we do not want to close the font window. To save the font and leave the font window open.

• Select **Save** from the **File** menu. Since this is a new font the **Save as** window will appear asking what name you wish to give the font. (If this was not a new font, FONTastic Plus would merely save whatever editing you have done.)

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• Type in the new name. For our example type **VeniceItalic**

The point size shown on this window is correct, therefore we do not need to alter this field

The font ID field initially has 200 in it. You normally do not need to alter this field. Let the program assign the ID. If you want to, you may assign an ID which does not conflict with any other

• Click **Save**

We have now saved whatever editing we have done up to this point, and our font's name is now "VeniceItalic 12" instead of "Untitled1 12" as you can see from the title bar on the font window

---

Scaling an Entire Font

Changing the height and width of a font's characters is called scaling. For our example we will scale our newly created font VeniceItalic 12 to twice its size for high resolution printing (see section below for further details)

• Select **Scale entire font...** from the **Effects** menu.

A dialog box will appear which shows you the current size of the font and asks for a new size

- Enter the new horizontal or vertical size or both. For our example enter 24 for both horizontal and vertical size.

• Click **OK**

You have now scaled VeniceItalic 12 to 24 point size. Check the sample window to see the effect of this operation.

At a later time you will need to clean up rough edges and perform touch-ups on individual letters in the character window using the character editing techniques discussed in Chapter 1 and later in this chapter. If you do not do this manual touch-up work, your font will print exactly like it used to and you **will have gained nothing**.

The size you choose may be larger or smaller than the current size. Just pick a number between 1 and 127.

If you don't have enough main memory in your computer for FONTastic Plus to make the desired change, you'll get a warning that the size you have chosen is too large for the available memory.

Because the two sizes are entered separately, you may scale the font more in one direction than the other. As the difference between the sizes becomes greater, the characters become increasingly distorted. Eventually they may become hard to recognize.

Preparing Fonts for High Resolution Printing

Remember that when printing on an ImageWriter I or II, the Macintosh tries to use a font twice the size of the selected font. Therefore, for the best resolution in printing to those printers you need to take the following steps:

• Create a font twice the size of the one you use (by scaling as we just did in the previous section). Otherwise the print driver will just double the size of the smaller font, with rather jagged results.

• Smooth the larger font's edges as much as possible. Do not change the widths of the double size characters because if you do you'll have tremendous spacing problems.

• If you make changes to the font size you see on screen, be sure to also change the font which is twice its size. Otherwise the changes will not show up when you print.

• If you have an ImageWriter LQ, use the above instructions but substitute three times size (12 goes to 36) fonts. If you have a LaserWriter of any sort, substitute 4.1667 times fonts but name them 4 times size. For example if you use the 12 point size on screen, you must also make a 50 point font, but call it 48 points when you **Save as...**

Saving A Copy As...

Now that we have scaled our font for high resolution printing we need to save this scaled version under the new point size. The command **Save a copy as...** in the **File** menu can be used whenever you wish to save a new version of a font under a different name and change the font's ID or point size.

Note: Two fonts with the same font ID but different names cannot exist in the same font file. Also, two fonts with the same name but different font IDs cannot exist in the same file.

• Reactivate the font window if necessary.

• Choose the **Save a copy as...** command from the **File** menu.

• Change the size that is automatically displayed from 12 point to 24 point

```
Save current font onto:  Fonts

        (    File    )          ( New file )

Name   [ veniceitalic                    ]

Size   [ 24 ]

Font ID [ 202 ]

      ( Save )              ( Cancel )
```
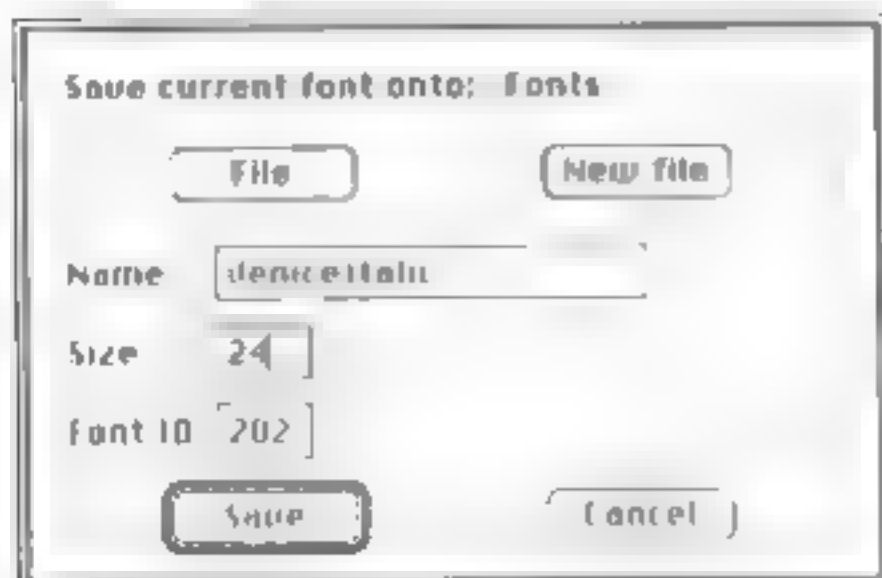
• After you have changed the size click on **Save**

You have now saved a copy of our scaled Veniceitalic 24 font into the Fonts file

• At this point **Close** the font window for Veniceitalic 12

You are asked whether you want to save the changes you have made to the font since you last saved it

• Since we have saved our scaled changes under a different point size using the **Save a copy as...** command click **No** The effect of the scale operation will not affect our original 12 point Veniceitalic

Printing a Sample

Besides seeing a sample of the font you are editing on the screen it is often necessary to see a printed copy of the font

Note You can follow along with this portion of the tutorial only if your computer is attached to a printer Otherwise just read through this portion to familiarize yourself with the sample printing capabilities of FONTastic Plus

- Open up the font VeniceItalic-12

- Open the sample window (**New sample** from the **File** menu) for VeniceItalic-12

- Select the **Page setup...** command in the **File** menu

The standard Macintosh Page Setup dialog box will appear in which you can specify the type of paper and page orientation you wish to use Do so

- Select the **Print sample...** command from the **File** menu

A dialog box will appear asking whether you wish to print the sample text (the editable text that appears in the sample window) or the key map

Select type of sample:
- ◯ **Print key maps**
- ⦿ **Print text**

[**Ok**]   [**Cancel**]
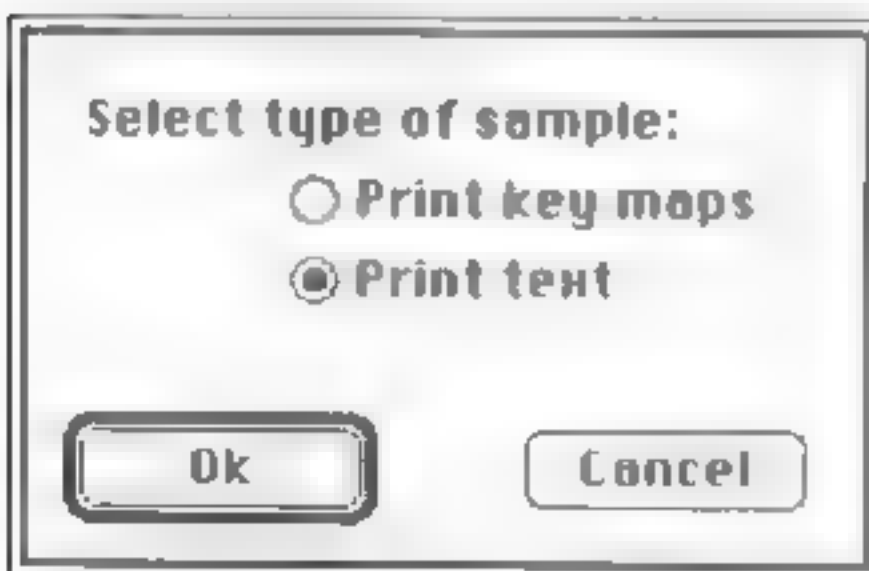
The key map is a printout of the character grid (similar to what you see in the font window of FONTastic Plus) with the key positions displayed in the label portions of the grid and the actual character for that position shown in the character box. To obtain this sample do the following:

• Select **Print key maps** from this dialog

• Click **OK**

Another standard printer dialog box appears asking for information such as how many copies to make and what pages you wish to print. For our purposes just accept the default values.

• Click **OK**

If your computer is attached to the printer correctly you will get a printout of the key map for the font VeniceItalic-12. The number of pages that print will depend on the size of the box selected from the **View** menu while the font window was active. If you selected **Small box** then one page will print. If you selected **Medium box**, then four pages will print. If you selected **Large box** then sixteen pages will print. The default box for a 12 point typeface is **Small box**.

Now we will print the text displayed in the sample window. If you would like to print something else besides the default sample text, you can type whatever you want in the sample window. When you are finished typing

• Select **Print sample...** from the **File** menu

• Select **Print text** from the dialog box that appears and click **OK**

Again the standard printer dialog box will appear, asking for information on how many copies, etc

• Click **OK**

The sample window text will be printed in your font. The printout will be the actual size of the bitmaps you entered into FONTastic Plus, they will not be the 2X, 3X or 4X sizes that produce Best looking output on printers like the ImageWriter II, ImageWriter LQ or LaserWriter IISC. You will see these Best looking characters when you print from other programs, the print driver for the printer will then choose the appropriate size to print in Best quality

Editing or Creating Characters

Now that you have learned to edit the font as a whole, it is time to learn how to edit individual characters.

For instance, if you want to touch up the appearance of a particular character, or you want to learn how to make individual characters, this section of the tutorial will help you accomplish these goals. In it you learn how to use the editing tools and how to assign a keyboard location to your new characters.

For the following examples on how to edit individual characters, we'll create a new demonstration font in the Fonts file.

• Close all windows except for the file window titled "Fonts".

• Select **New font...** from the **File** menu.

A dialog box will appear asking for the size of the new font.

• Enter the desired point size (in this case 18) and click **OK**.

A new font window named "Untitled1-18" will appear. If you have not restarted FONTastic Plus since page 58, your window will be named "Untitled2-18".

Selecting the Position of a Character

When you create a new character you must decide which key (or key sequence) will produce that character. Then you assign the character to a grid location for that key or key combination.

There are several ways you can find the location of a character.

1. Change the view to the System view by selecting **System** in the **View** menu. Select the desired character in the system view. When you change to the other view (**Actual** from the **View** menu) note the highlighted box. This is the location you want.

or

2. Press the key or key combination on the keyboard. The location on the grid of that key or key combination is highlighted.

or

3. Change the view to key by selecting **Key** in the **View** menu. The grid labels describe the key position. Click in the desired character box.

- We will start by creating the lower case n in our new font. Select this letter by any of the above methods.

Opening the Character Window

You must open the character window before you can create or modify your characters.

• Select **Open character** in the **File** menu

Or use a shortcut —

• Double click on the position in the character grid of the character you wish to work with.

The character window will appear. If you were modifying an existing character it would be displayed in the window. Since you are creating a new character, the window is blank.
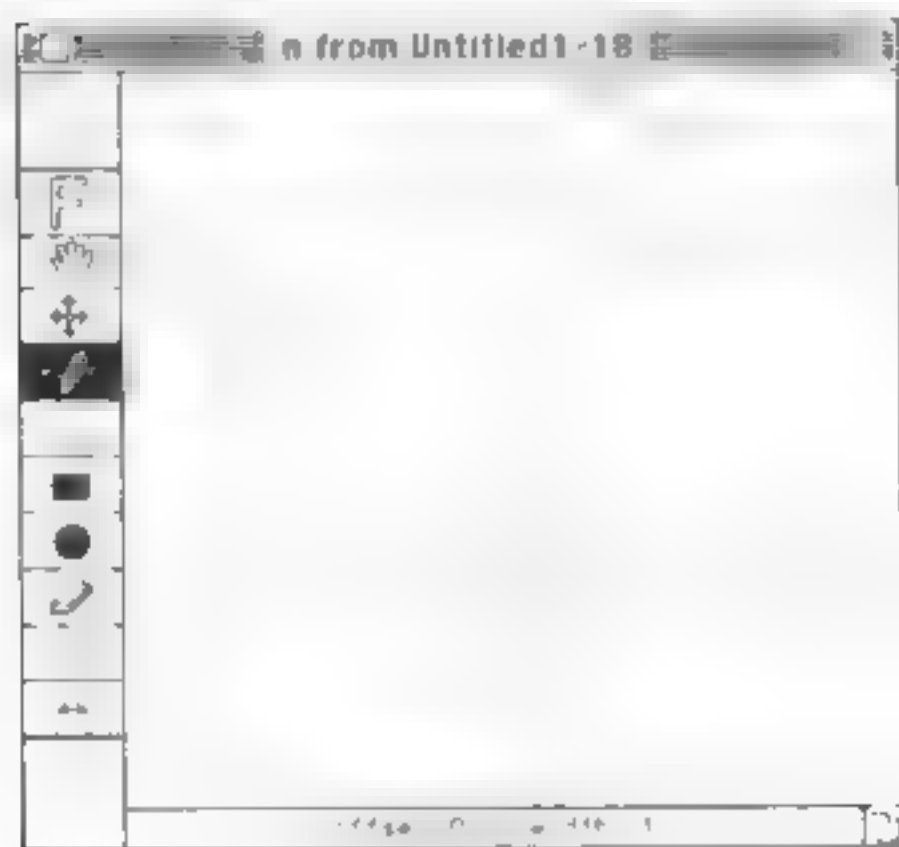
The Various Drawing Planes in FONTastic Plus

There are three drawing planes in FONTastic Plus. Each plane is used for a different purpose to help make character drawing easy.

Foreground

When you open the character window, the plane that is active is the foreground drawing plane. This is the primary plane and only things drawn in the foreground plane become part of the character you are creating.

Background

The background plane is used as a guide or template. Everything drawn in the background plane is strictly for screen viewing only, and does not become a part of the font. All of the tools work in the background plane so you can draw any type of image. This plane is useful for comparing two characters by placing one in the background while editing the foreground.

When you are in the foreground plane, the image in the background plane shows as gray. When you are in the background plane, the foreground image is gray.
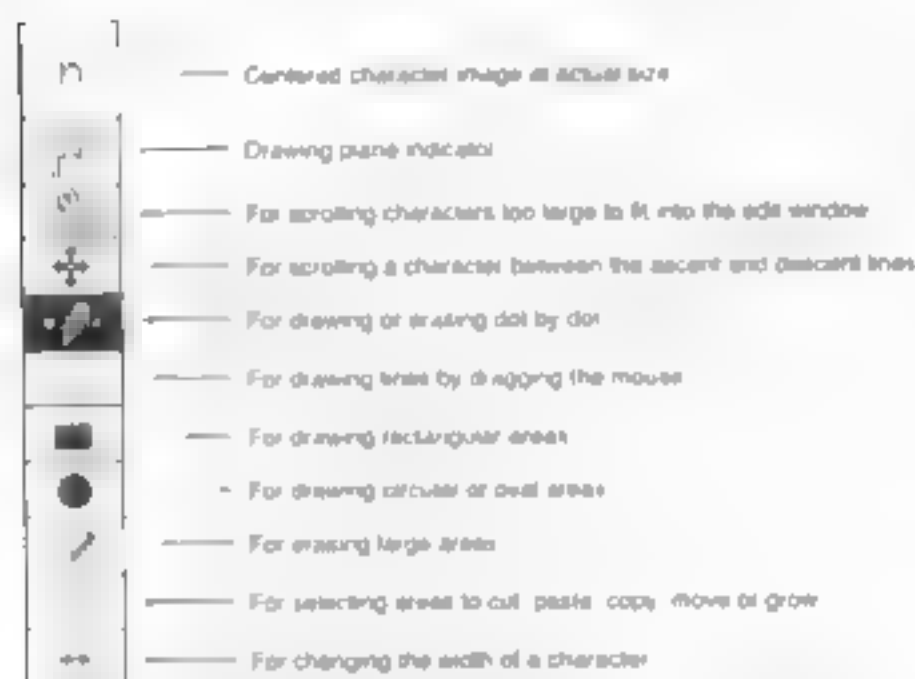
Guidelines

The guidelines plane lets you draw horizontal and vertical guidelines which appear in every character of the font. They are helpful for making standard width lines, or x height lines used for assuring all lower case letters have the same height.

Using the Character Editing Tools

Editing a character is very much like drawing in tablets with MacPaint. You even use many of the same drawing tools. If you need, you can review their functions in the illustration below. Remember that when using the pencil you can either click (to change a single dot) or drag (to draw continuously). The line, circle and box tools must be dragged out from some starting point to an ending point.

The Four-arrow Tool and Scroll Hand

One special tool here is the four-arrow tool. Use it for positioning your character between the ascent and descent lines or origin and width lines. This tool moves only the character; the grid and the guidelines stay put. The scroll hand, in contrast, simultaneously moves everything in the window.

• Use either positioning tool by clicking it on top of the edit area you wish to move, then drag with the mouse.

Limits of the Drawing Area

The editing tools have no effect above the ascent line or below the descent line. However, you can go as far to the left or right as you wish.

Actual-size Image

In the drawing area, a character will be enlarged to eight times its normal size when you first open the character window (8x **magnification** in the **View** menu). You can also have the character enlarged to four times or two times by using the 4x **magnification** or 2x **magnification** selections in the **View** menu respectively.

• Look at your character in the small box at the upper left corner of the edit window. This is an actual-size image of the character. If the character is very large, this area shows only the central portion.

Shortcut to the Scroll Hand

Whenever you want to use the scroll hand, you can do so without having to select it in the tool box.

• Hold down the **option** key

The tool you are using temporarily changes to the scroll hand.

• Scroll the character to where you want it

• Release the **option** key

The scroll hand switches back to the tool you were using.

Accurate Horizontal or Vertical Moves

Trying to drag a tool in a precise horizontal or vertical line can be difficult. You can use the following steps to drag any tool horizontally or vertically

• Position your tool precisely where you want to start

• Hold down the **shift** key

• Press the mouse button and drag your tool in the approximate direction you want to go.

Your tool makes changes only within a straight line no matter how much you wander

Creating a Character

Now that you have learned about some of the edit window features, it's time to create a character. We have an empty character window in front of us now. The first thing we should do is adjust the width guideline

• Select the width tool from the tool palette

• Click on the width guideline (the rightmost guideline) and drag it to the right leaving space to draw the letter 'n' We can adjust the width more precisely later

Setting Additional Guidelines

It is often convenient to add additional guidelines to the drawing area to assist drawing. When you add a guideline in the character window, you are adding that guideline to the entire font. Therefore, when you open up another edit window the guideline appears in that window also.

For our purposes we will add a guideline for the x height of the characters. Remember from Chapter 2 that the x height is the height of the main body of lower case letters (such as "x"), excluding ascenders or descenders.

- Change the planes in the edit window by clicking on the plane indicator until the guideline plane is active as shown below.
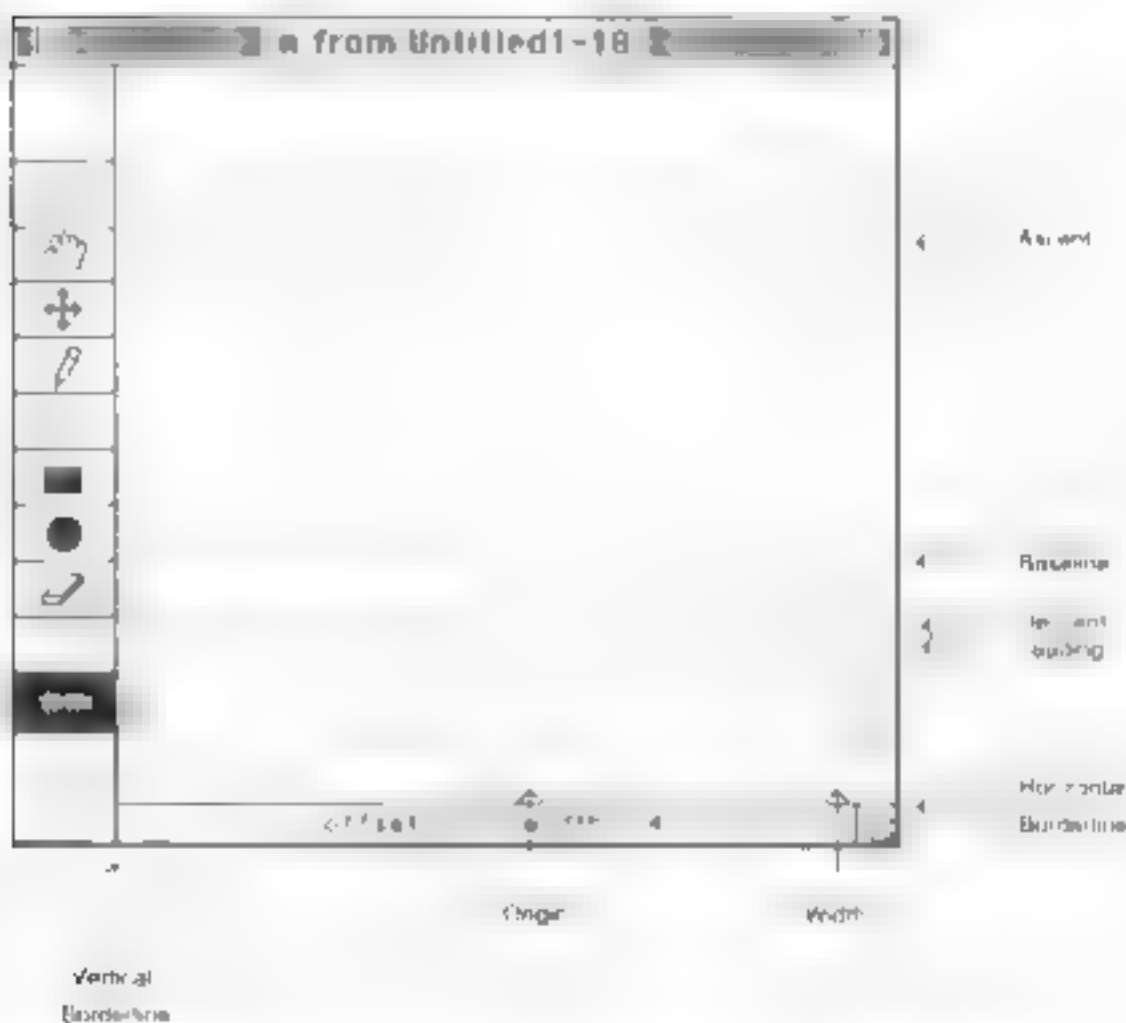
- Since we want to add a horizontal guideline, press the mouse button down just below the horizontal borderline at the bottom of the drawing area. You must be within two or three screen dots below the borderline. If you properly position the cursor, pressing the mouse button will turn the cursor pointer into a crossbar.

• Without letting up on the mouse, drag the line to the position you wish to place it. (Let's position a horizontal guide line about halfway between the baseline and ascent, see illustration below)
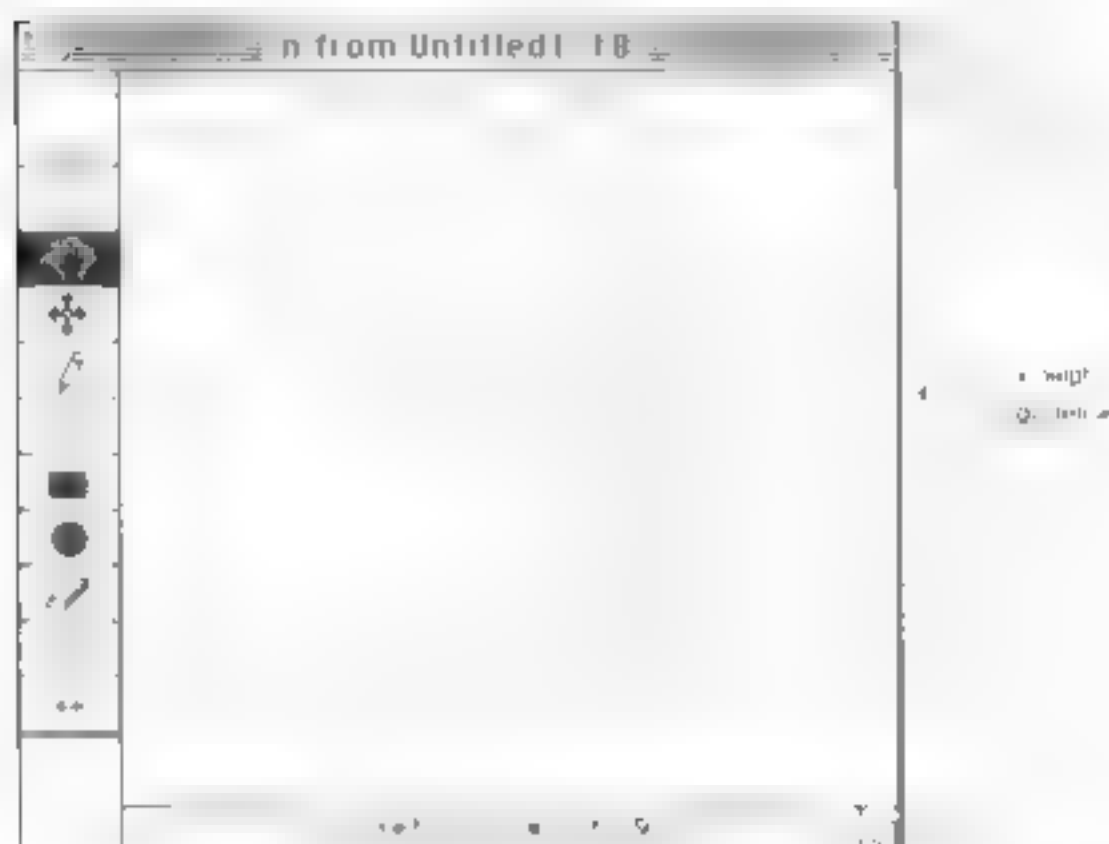
Any guideline which you added may be moved when in the guidelines plane simply by dragging it. Place the pointer on top of the line you wish to move and drag it to the desired location.

To remove your horizontal guideline, place the pointer on top of the line you wish to remove and drag it below the horizontal borderline at the bottom of the drawing area.

You can also add vertical guidelines if you wish. The process is the same as for horizontal guidelines: place the pointer in the area two to three screen points to the left of the vertical borderline (i.e. in the last two or three screen points of the tool palette) and drag to the right. To remove vertical lines you drag the lines back to the left of this vertical borderline.

Note: The ascent, descent, leading, baseline and origin guide lines cannot be removed or added as described above

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Drawing the Letter

We are now ready to draw the letter

- Change the drawing plane back to the foreground plane by clicking on the plane indicator until the "F" for foreground appears. Remember all drawing you want to appear in the actual font must be performed in this plane

- Select the line tool from the tool palette and position the pointer to the right of the origin guideline and just below the x-height guideline
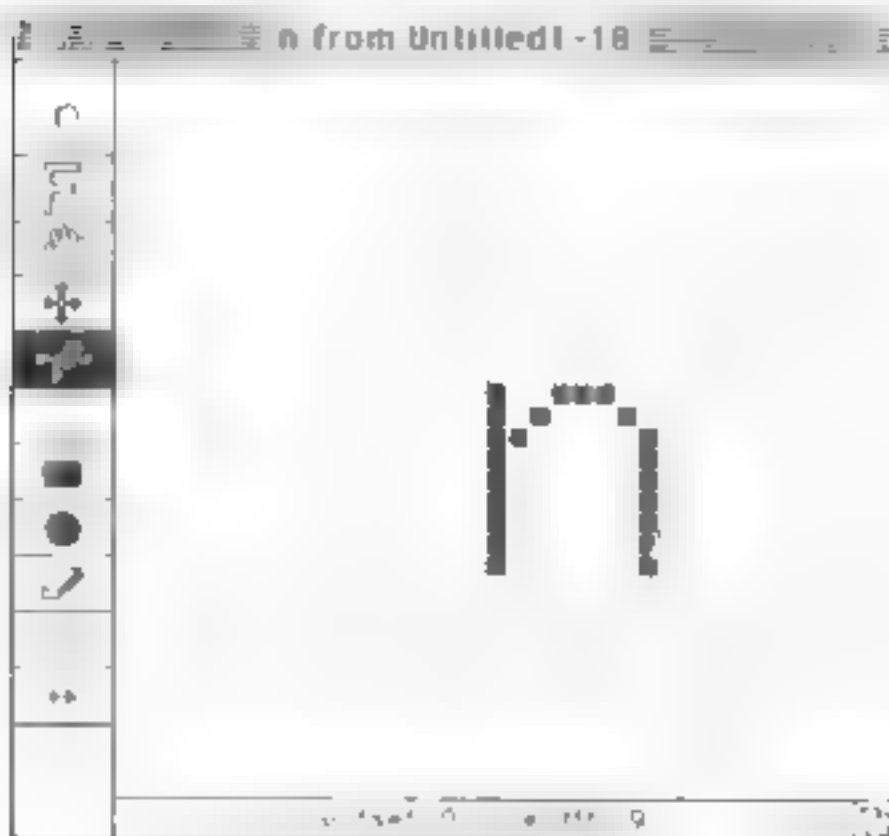
- Hold down the **shift** key then press the mouse button to constrain movement vertically and drag the pointer down to the baseline

- Let up on the mouse, select the pencil tool and draw the rest of the letter "n"

If you make a mistake while drawing use the **Undo** and **Redo** commands described below

Undoing, Redoing and Reverting

Three useful commands **Undo Redo** and **Revert** make character drawing very easy and efficient   Each of the commands has its own specific use as described below

Undo

If you make a mistake or do not like the last action you took immediately select **Undo** in the **Edit** menu Your mistake will be removed If you were to **Clear** by mistake for instance you could immediately choose **Undo clear**

| Edit	
Undo clear	⌘Z
Redo clear	⌘Y
Cut	⌘X
Copy	⌘C
Paste	⌘U
Clear	
Select all	⌘A
Edit missing	⌘M
Edit next	⌘N
Edit previous	⌘B

Redo

If you decide after you have performed an **Undo** operation
that you really did want to do the operation after all, you can
immediately select **Redo** and the operation will be restored.

Edit

Redo clear	⌘Y
Cut	⌘X
Copy	⌘C
Paste	⌘U
Clear	
Select all	⌘
Edit missing	⌘M
Edit next	⌘N
Edit previous	⌘B

FONTastic Plus supports four levels of undo and redo in the
character window so you can undo or redo up to four opera-
tions. You can undo and redo all operations performed in the
character window foreground plane except for scrolling the
character with the hand (which does not actually change any-
thing in the character). **Undo** and **Redo** are not available in
either the background or guideline plane.

Revert

Revert when selected while a Character Window is active, eliminates all the changes you have made to that character since you last saved your work or since you last opened the character for editing. The **Revert** command is found in the **File** menu.
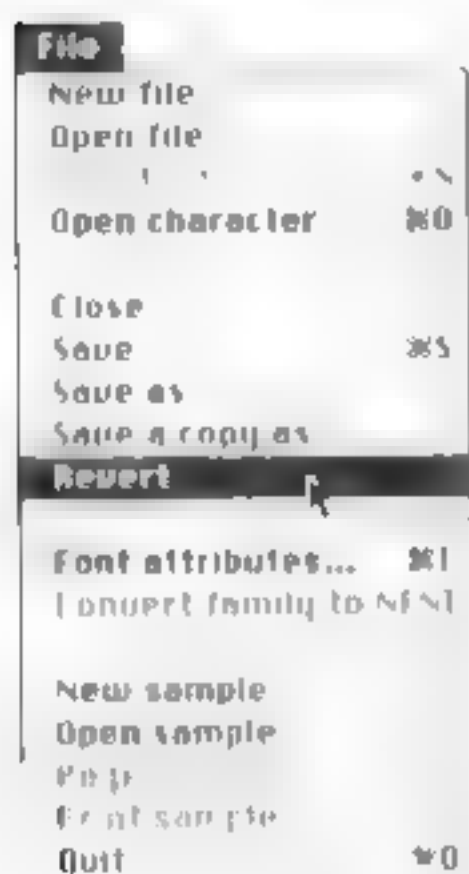
Adjusting the Origin and Width

When you are happy with the way the character looks, you are ready to adjust the origin and width of the character.

The types of effects you can create are as follows.

Normal Width

Normally you should set the width at least one column beyond the right of the character's dots.

Overstrike

You can create an overstrike (or zero-width) character to allow the next or previous character to print on top of it. To do so move the width guideline on top of the origin guideline. If the character is to the right of these lines it overlaps the following character. If the character is to the left of the lines it overlaps the preceding character. Because of the way the Macintosh text display works, overlapping the preceding character works better than overlapping the following character.

Offset

Offset is the distance between the leftmost dot of a character and its origin.

Overlap (Kerning)

You can position the character or adjust the width guideline so that the origin and width guidelines fall within the character's dots. If the origin guideline falls within the character's dots your character will overlap the character on the left. If the width guideline is moved within the character's dots the character will overlap the one on the right. (See "Kerning" in Chapter 2 for a more complete discussion of character overlap.)

For this character we will leave the offset as it is. If you wanted to adjust the offset you would use the four-arrow tool to position the character with respect to the origin.

To adjust the width

• Select the width tool from the tool palette.

• Click the mouse at the horizontal position where you wish to place the width guideline. For our character, place the width line one column to the right of the rightmost bits of the letter. We will test this width later and readjust it if necessary.

Shortcuts for Creating Similar Characters

Now that we have created the letter "n" we are ready to start on the rest of the character set. A shortcut in creating characters is to copy similar parts of characters from one character to another. We will use the letter "n" as a base to create the letters, "h" and "u".
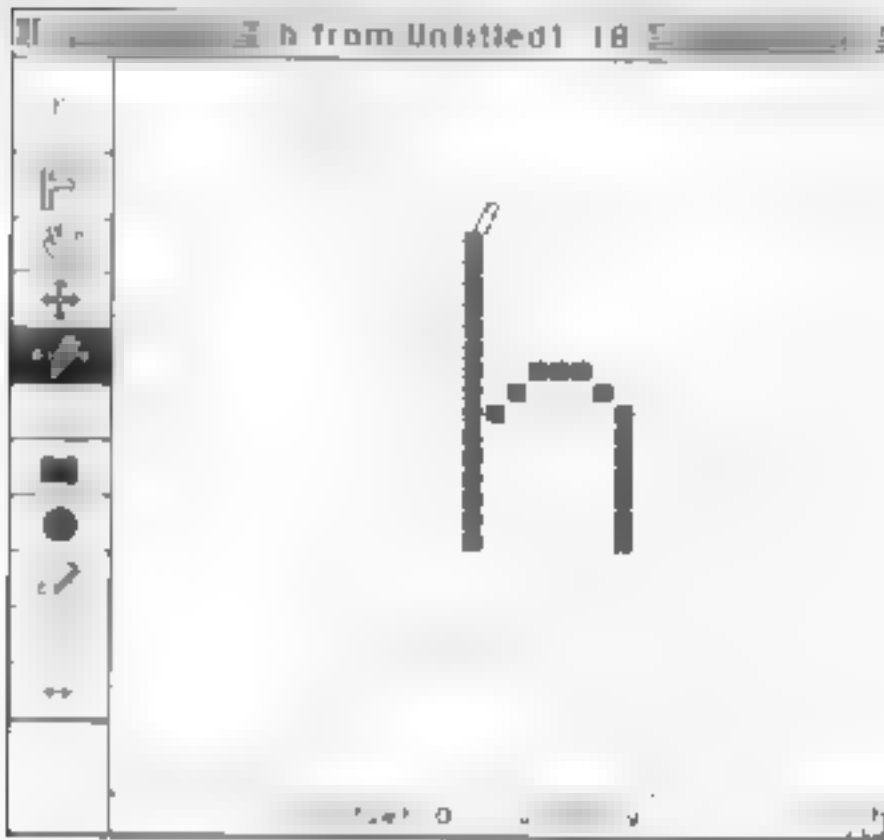
• Close the character window for the letter "n"

The font window for our new font is now the active window and our newly created character appears in it.

• Select the "n" in the font window and copy this character using the **Copy** command in the **Edit** menu

• Select the position for the letter "h" in the font window grid

• Select **Paste** from the **Edit** menu. The letter "n" now appears in the grid in the position for the letter "h"

• Open the character window using the **Open character** command in the **File** menu or double clicking on this character position

- All we need to do to convert the "n" into an "h" is to add the vertical extension to the line on the left of the character. This can be accomplished using either the pencil or line tool as shown below.

When you are satisfied with the way the "h" looks, close the character window.

We are now ready to create the letter "u" in our new font. Again we can use the letter "n" we created earlier as a base for this character.

- Select the letter "n" from the font window again.

- **Select Copy from the Edit menu**

- Select the position where the letter "u" belongs in the font window.

- Select **Paste** from the **Edit** menu. The letter "n" now appears in the grid in the position where the "u" belongs.

- Open up the character window for this character.

We can use the **Horizontal flip** and **Vertical flip** commands in the **Effects** menu to change the "n" into a "u".

- Choose the selection tool (the dashed box) from the tool palette and select all the bits of the character.

- Select the **Horizontal flip** command from the **Effects** menu. This flips the "n" horizontally around the center of the character to give the effect below.
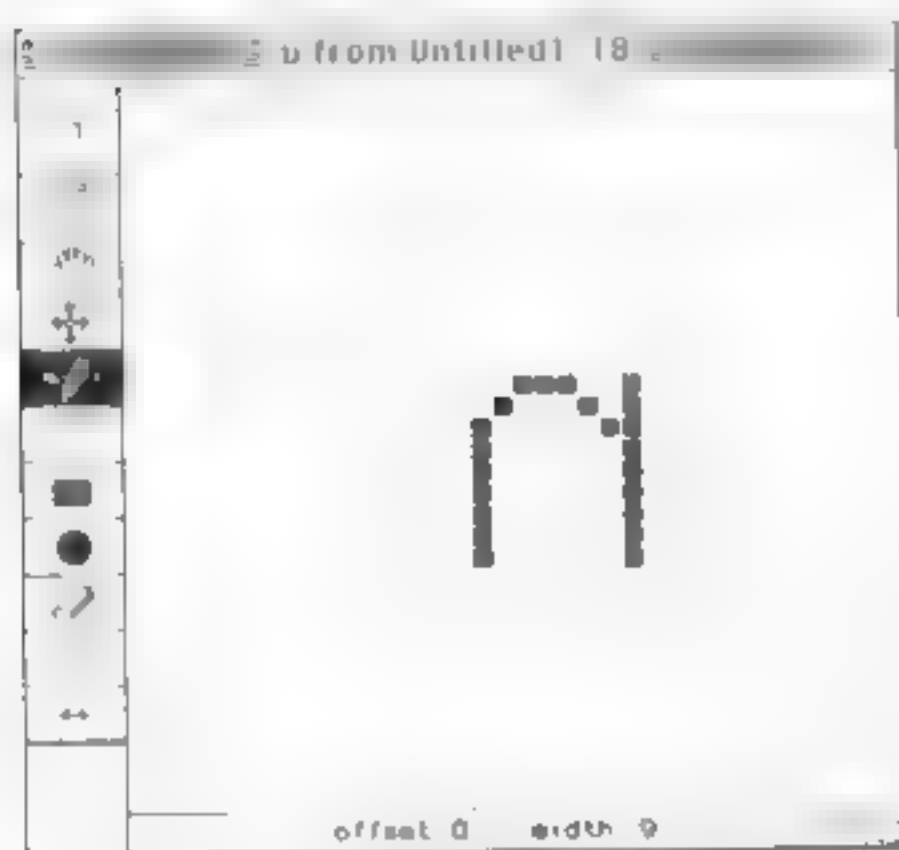
• Select the **Vertical flip** command from the **Effects** menu

This flips the bits selected vertically around the center of the rectangle
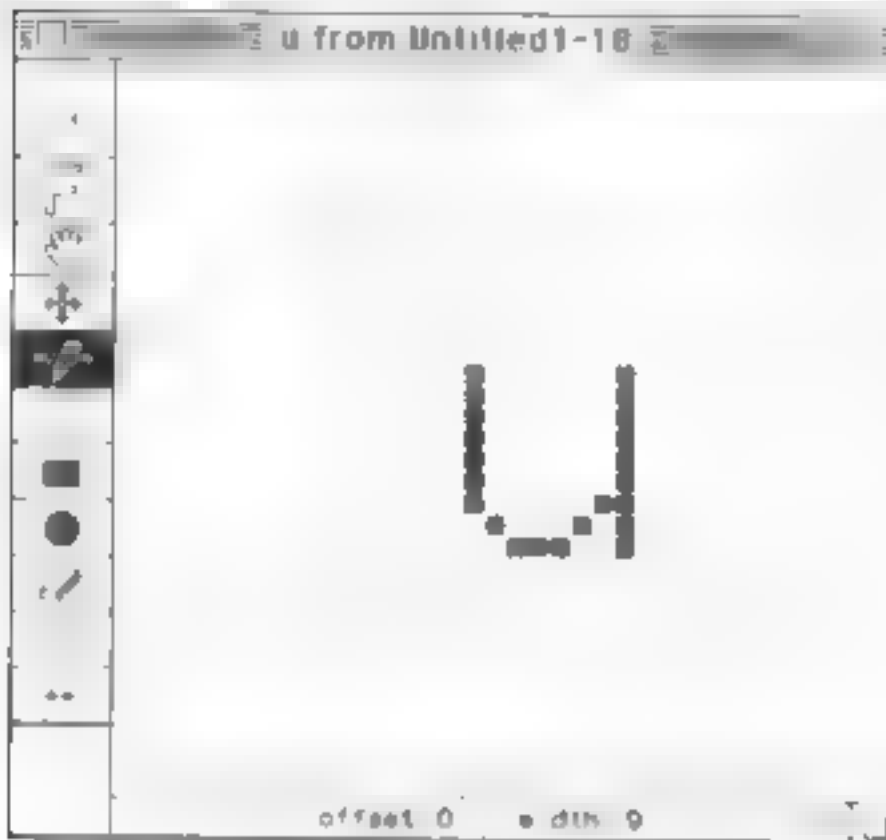
You now have the letter "u". Adjust the position of the character with the four-arrow tool if necessary

The **Horizontal flip** **Vertical flip** and **Rotate** commands in the **Effects** menu all flip or rotate around the center of the selection rectangle if bits are selected, otherwise they flip or rotate around the center of the character

• When you are pleased with the letter "u" close the character window

You have just created three characters with a minimal amount of effort. You can use the above techniques and those that follow to create many more interesting characters and fonts

Cutting, Copying, Clearing and Pasting

The following instructions are for cutting and pasting while you are creating or modifying your character. They do not apply to adding or removing characters to or from fonts from the font window.

To Cut, Copy, or Clear

Use the following steps

- Select the selection tool (dashed box tool)

This tool selects areas just like the selection rectangle in MacPaint

- Drag the rectangle until it surrounds the desired area

- Select **Cut**, **Copy**, or **Clear** from the **Edit** menu, or use these keyboard shortcuts ⌘X for Cut, ⌘C for Copy, Backspace for Clear

To Paste

You may paste material from MacPaint (or almost any other graphic program) into the character window's foreground or background pane. You may also paste material copied or cut from one character into another character from the same or from a different font

To paste material and keep its original size

- Select **Paste** from the **Edit** menu or just type ⌘V

To paste material so that it scales according to the ascent and descent of the font·

(Note: This is useful when pasting between fonts of different point sizes.)

· Hold down the **option** key while selecting the **Paste** command from the **Edit** menu

To paste material and scale it to a desired size

· Select the dashed box tool

· Drag the box until it is the size you desire

· Use the **Paste** command

The pasted material is now scaled to fit the box size but it may be distorted

· Use the editing tools to clean up the pasted material

To move pasted material that isn't quite where you wanted it

· While the selection box is still active you can place the cross bar pointer inside the selection box and drag the pasted material to the location that you want. As soon as you are pleased with the pasted material's placement deselect the rectangle by clicking outside the rectangle

As an example of how copy and paste work from the edit window we can create the letter "H" for our new font

· Open your "System" file using the **Open file...** command in the **File** menu

· Open the font NewYork-18

The font window for NewYork-18 will appear

- Select the capital "I" in the font window and open the character window for this character

- Using the selection rectangle select the bits of the "I"

- **Select Copy from the Edit menu**

- Reactivate the new font window named "Untitled1-18"

- Select the character position for the capital "H" and open the character window for this character

- Hold down the **option** key while selecting **Paste** from the **Edit** menu

The "I" appears in the character window. In the next section we use this "I" to create the rest of the letter "H"

Dragging Bits to a New Location

Besides being able to drag pasted bits to a new location you can also drag selected bits

- Select the selection rectangle tool from the tool palette

- Select the bits that you wish to move with the selection rectangle

- Position the pointer inside the selection rectangle and drag the bits to the location you wish. After moving the selected bits to the new location you may deselect the bits by clicking outside the selection rectangle.

In addition to just moving the bits you can make a copy of the bits and then drag the copy to the position you want. We will do this using the "I" that we pasted to create the letter "H" Perform the following steps to accomplish this

- Select the selection rectangle tool from the tool palette

- Select the bits that you wish to copy - in this case the entire letter "I"

- Place the crossbar pointer inside the selection rectangle and press and hold down the **option** key and then drag the bits to the right

A copy of the bits appears. You can position these bits a suitable distance from the original to create the second bar of the "H".
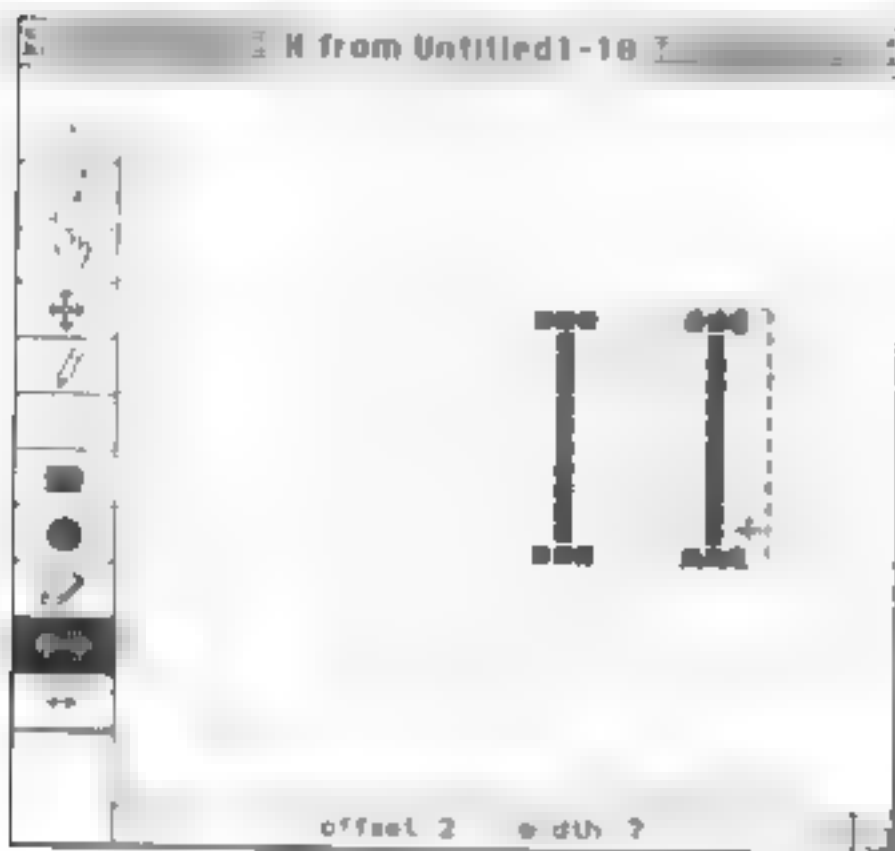
- When you are satisfied with their placement, deselect the bits by choosing another tool or by selecting another set of bits

Use the line or pencil tool to draw the crossbar for the "H" and your letter is now complete

Scaling Selected Bits

Another interesting feature of FONTastic Plus is the ability to scale selected bits to any size. To demonstrate this we create the capital "C" for our new font from the lower case "c" in NewYork-18.

- Reactivate the "NewYork-18" font window and copy the lower case "c" from the font window

- Reactivate the "Untitled1-18" font window and paste the "c" into both the position for the lower case "c" and the position for the upper-case "C"

- Open up the character window for the upper case "C"

- Use the selection rectangle tool to select all of the bits of the "c" (see illustration below)
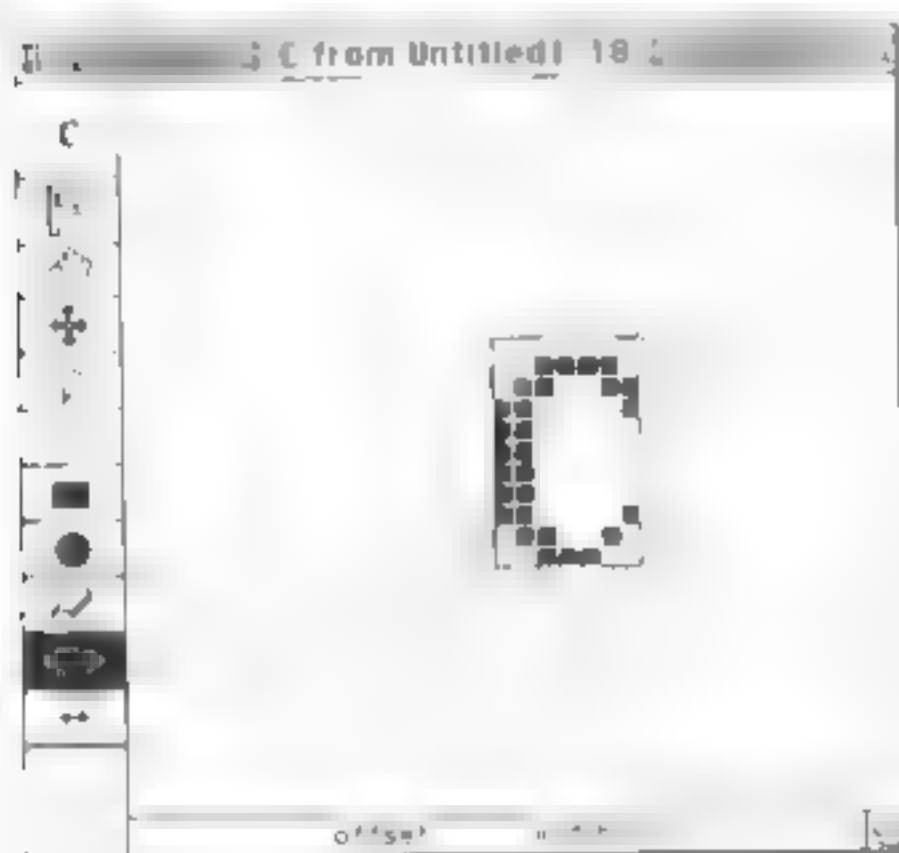
- Place the arrow pointer one or two points inside the top right corner point of the selection rectangle. Try to place it as precisely as possible

- Press the mouse button down and start to drag the rectangle up and to the right slightly. The bits will start to grow. Stop when the image looks about right for a capital C
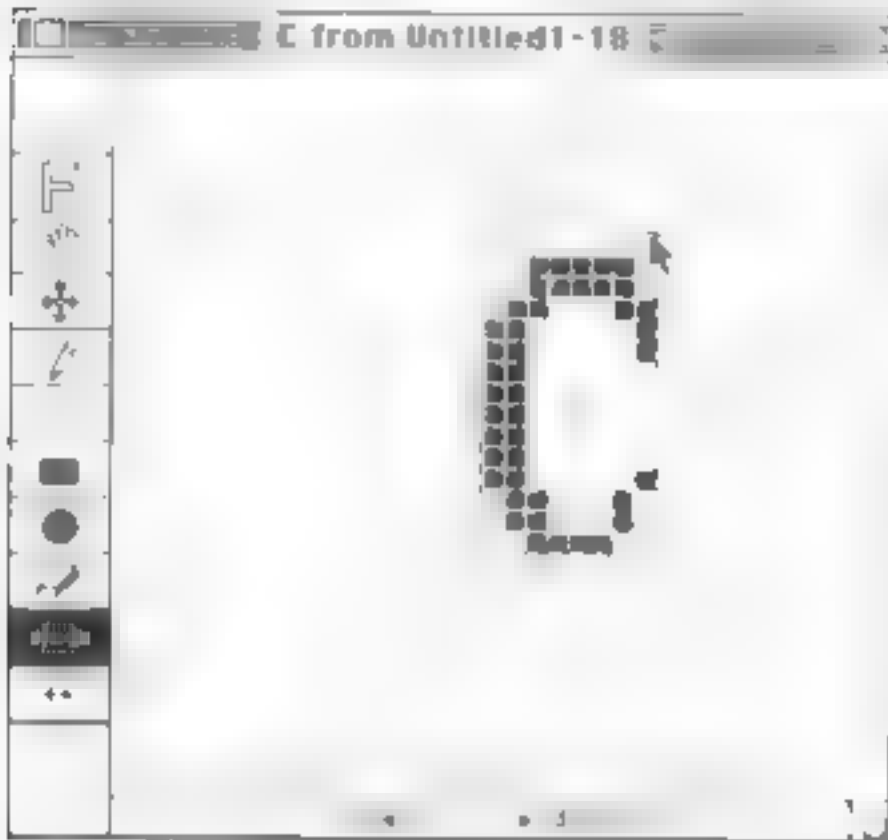
Remember, if you do not like the way the image looks, you can always **Undo** and try again

This scaling operation can be done from any of the four corners of the selection rectangle, but you are limited to scaling between the ascent and descent of the font

Rotating Bits

Another useful feature of FONTastic Plus is its ability to rotate selected bits 90 degrees. We'll demonstrate this by developing a cloverleaf character in the **shift-option** 3 position of our new font.

The following is a shortcut for switching to a new character from the character window without having to close the window and reopen another.

· With the character window for the capital C from "Untitled 1" active, type **shift-option** ·

You can type any character or combination of keypresses when the character window is open and FONTastic Plus will immediately change the character window to show the new character you are requesting. Since you have just typed a **shift option** 3 the character window for the capital C will change immediately to the character window for **shift option** 3. No character is defined in this position so the window will be blank.

· Prepare the window for drawing by adjusting the width guideline and making sure you are in the foreground pane. Moving the width line before drawing is not required but helps reduce screen clutter.

· Use the pencil tool to draw the right leaf of the cloverleaf similar to the illustration below
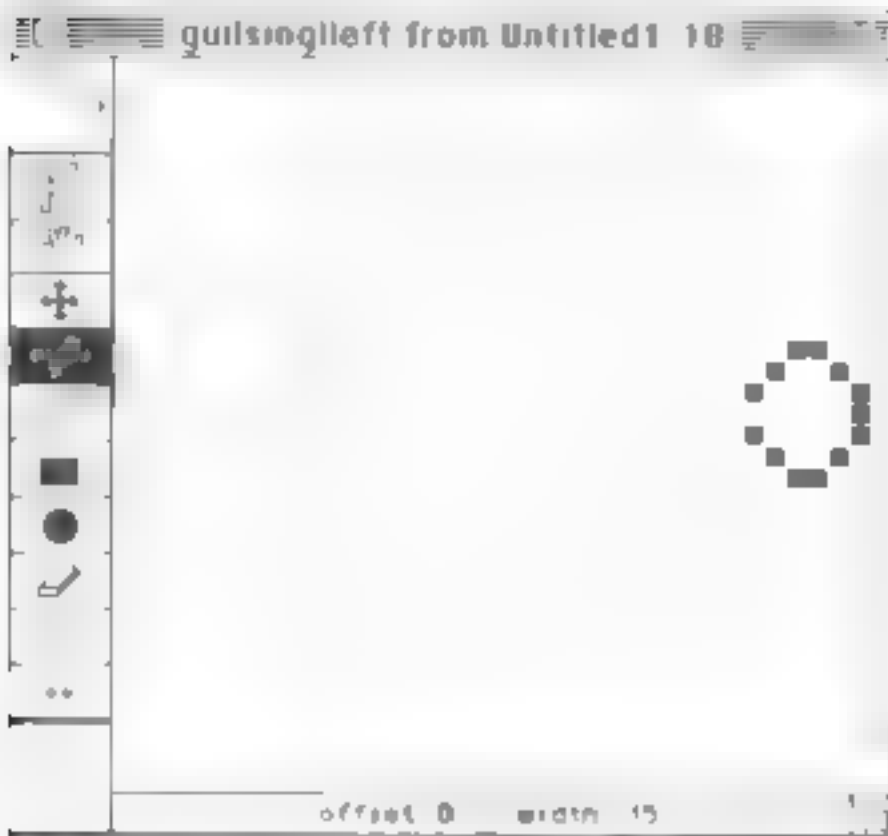
· Select these bits with the selection rectangle tool and use the **option** key to copy and drag them up and to the left

· Select **Rotate** from the **Effects** menu enough times to position the leaf as shown on the next page

The bits that were selected are rotated 90 degrees around the center of the selected rectangle. If no bits were selected, the rotation would occur around the center of the entire character.
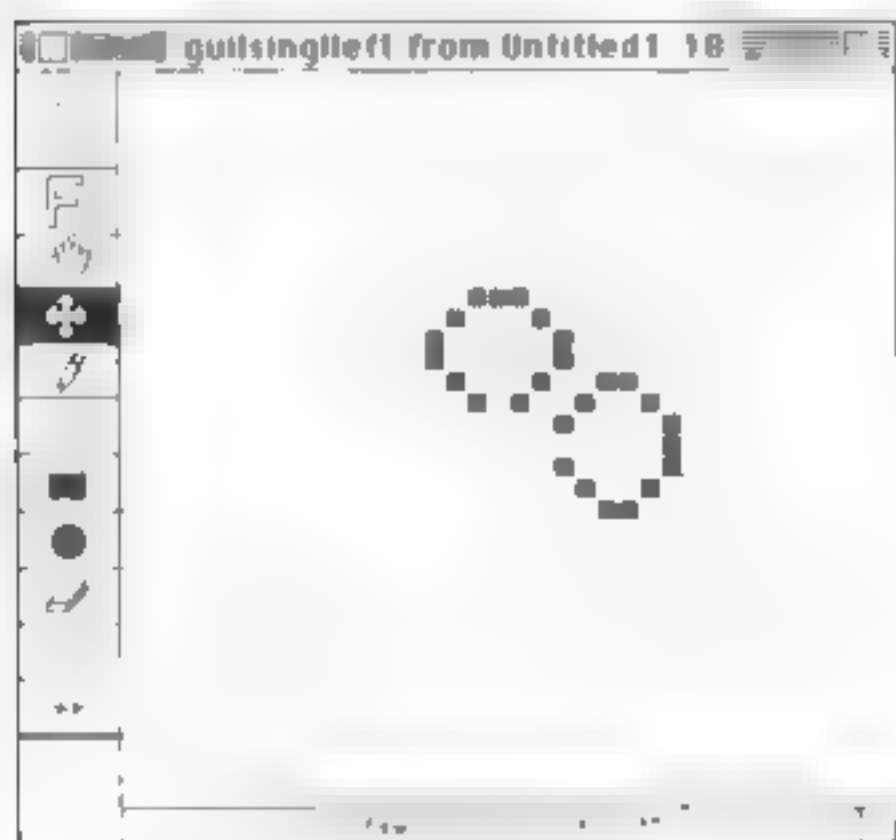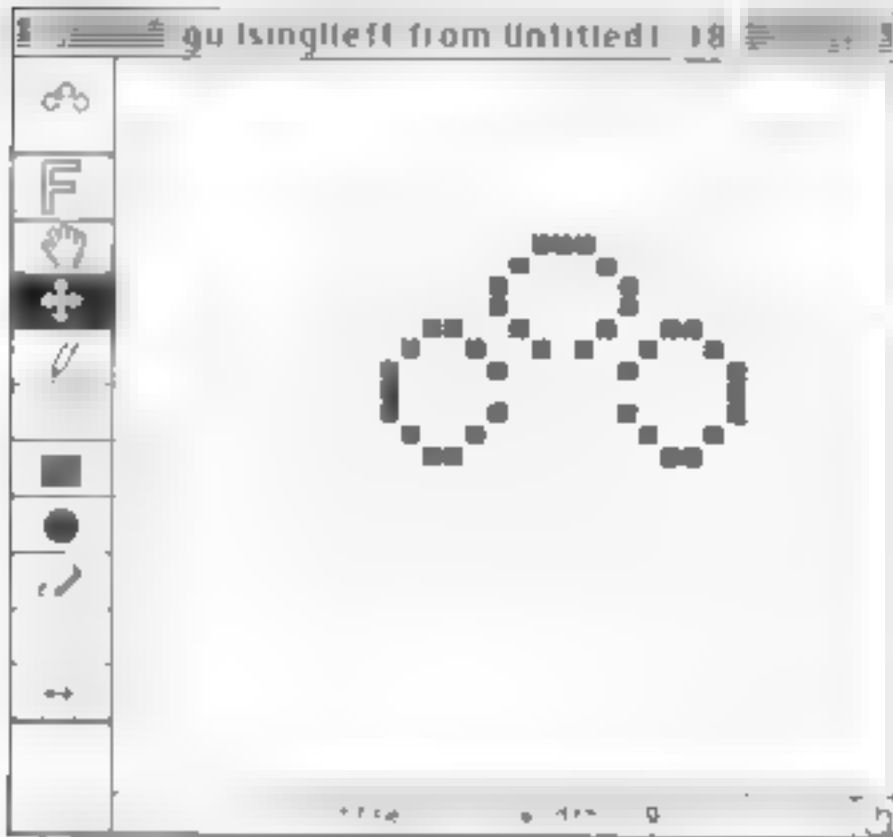

- If the bits are not precisely placed, select them and drag them until they are where you want.

We only have to create the left leaf of the cloverleaf now. This is how we'll do it.

- Again select the right leaf of the cloverleaf, then copy and drag these bits to the left.

- Use the **Horizontal flip** command in the **Effects** menu to change these bits so they are facing the way we wish

- If the bits are not precisely placed after the flip, select them again and drag them to the location that you want

- All you need to do now is create the stem with the pencil tool

Scaling an Individual Character

Changing the height or width of a character is called scaling. Individual characters are best scaled by scaling the character's dots

- Select the character to be scaled with the selection rectangle tool

- Place the pointer in the top right corner of the selection rectangle, press down on the mouse button, and drag the bits until the character is the size you desire

- Reposition the character if necessary

Remember that the size is limited by the ascent and descent lines. If you need a larger area, you must change the ascent and descent values with the **Font attributes...** command in the **File** menu. Doing so changes the ascent and descent for the entire font. (See the Reference Section for details on how this is done.)

Testing Your Character

You can see the actual size of your character in the box at the top left of the character window. You also need to test how the character looks in relation to the rest of the font. You do so in the sample window.

- Select **New sample** from the **File** menu to get the sample window for your new font.

- Type in the characters we have just created to see how they look and to check their spacing.

- Go back and adjust the width for any characters that need more or less space between them.

- Go back and clean up any characters you are not pleased with.

- You can do a **Print sample...** on these new characters to see how they appear in print.

Leaving the Extended Tutorial

- Click on the close box of "Untitled1-18"

- If you want to save the characters you have just created click **Yes** and name the font whatever you wish (following the guidelines discussed in the Reference Section under the **Save a copy as...** command in **File** Menu)

- If not, just click on **No**

The font window for "Untitled1 18" and all associated character windows and the sample window close automatically

- If you are finished using FONTastic Plus select **Quit** from the **File** menu

Using FONTastic Plus and MacPaint under MultiFinder

FONTastic Plus is completely compatible with Apple's MultiFinder program. MultiFinder will allow you to run FONTastic Plus and MacPaint together on a Macintosh with enough memory (at least 2 megabytes of main memory). This arrangement makes cutting and pasting from MacPaint into the character window much easier. You can cut and paste images from MacPaint into either the foreground plane or the background plane depending on whether you want the image to become a part of the font or whether you want to use the image as a guide or template

We will not give you all the instructions for using MultiFinder but do take note of the following

- Assign a minimum of 512K of memory to FONTastic Plus, 800K is recommended

- Never remove fonts from your System file while running MultiFinder. Not even Apple's Font DA Mover can remove fonts from a System running MultiFinder

Summary

You have just completed a fairly extensive tutorial on the many features of FONTastic Plus. We have shown you several techniques that will aid you in your future typeface design endeavors. Turn your creativity loose and experiment.

There are a few features that we did not go into in this tutorial. Chapter 4 goes into detail about editing the FOND and the metrics window that is associated with FOND editing. If you want to establish kerning pairs or fractional width characters, be sure to read this chapter.

Chapter 6 (Reference) in this manual gives an explanation of all the menu items in FONTastic Plus and its basic window features. There are a few menu items that were not covered in this tutorial. They are, however, discussed in Chapter 6.

Chapter 4

FOND Editing

Chapter 4
FOND Editing

In this chapter you will learn how to edit the FOND resource. Since the FOND resource is used only by Macintoshes with the 128K ROM or better, this chapter is only for those who plan to create fonts which will be used on such machines. If you install a FOND on an original 128K Macintosh or an unenhanced 512K Macintosh, its information will be completely ignored.

Recall from Chapter 2 that a FOND is basically a table containing information about a family of related FONTs/NFNTs, which share width information, kerning pair information, and other tables. When you edit a FOND in FONTastic Plus, you are editing the width or kerning pair information for the entire family of FONTs/NFNTs belonging to that FOND. All Macintoshes (except the original 128K Macintosh and the unenhanced 512K Macintosh) refer to this FOND for width and kerning pair information. If these tables have been created for the FOND using the techniques described in this chapter, many Macintosh programs can use the information found in these tables instead of using the less accurate information provided in the FONT/NFNT

Editing the FOND

FONTastic Plus provides a special window, the metrics window, for editing the FOND. The metrics window can display several characters simultaneously, with intercharacter spacing presented as accurately as is possible on the screen. While it still may be necessary to generate some print samples to achieve optimum results, this window makes it possible to set the width and kerning pair information for the FOND interactively.

To edit a FOND in FONTastic Plus, perform the following operations:

- Select the FOND you wish to edit from the selection list in the file window. Remember that the FOND's name will be displayed in **bold** lettering.

- Select the **Open fond** command from the **File** menu or double click on the FOND's name in the selection list of the file window.

```
Width/kerning tables to edit

  ⦿ Plain
  ◯ Italic
  ◯ Bold
  ◯ Bold Italic

  ( OK )        ( Cancel )
```

A style selection window will appear. Only the buttons for styles that exist will be selectable. Choose the style you want to change, or press **return** to default to the plain style. The metrics window for the selected style will then appear. When you first open it, all entries in the metrics window will be empty and the center character position will be selected.
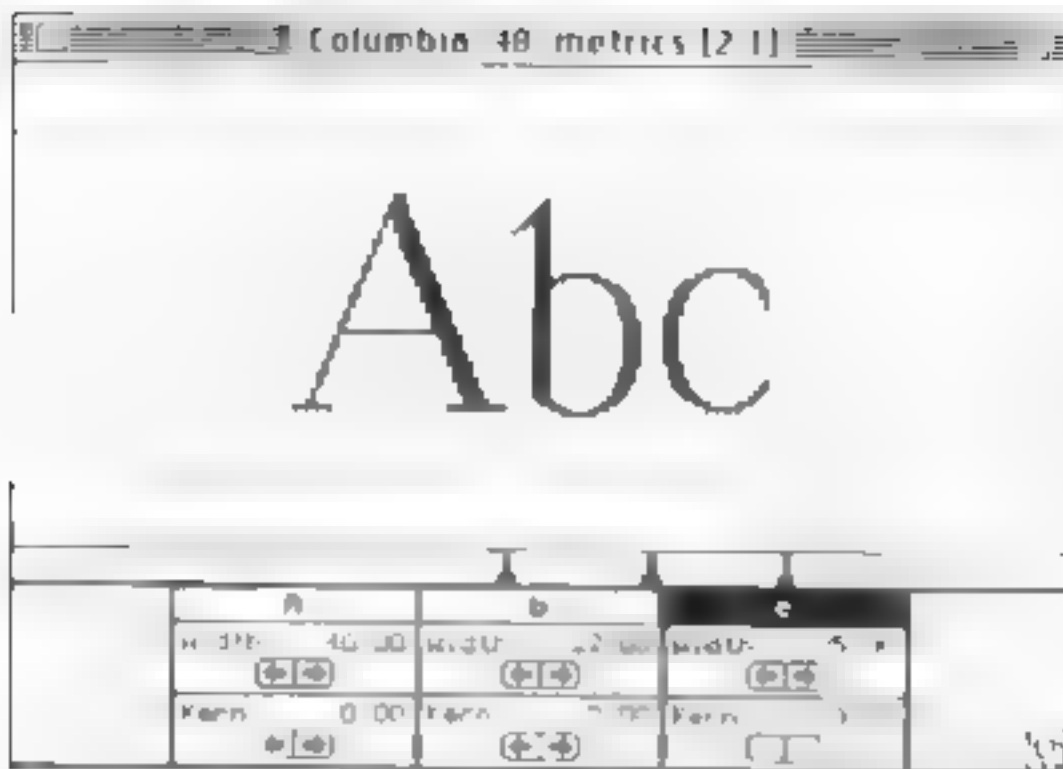
The title bar of the metrics window shows you the name of the font we're editing, the largest point size of that font, and the ratio of the size displayed in the window to the actual size of that largest size. In the window above, we are looking at a 48 point font displayed at two times its actual size [2 1]. You can resize this window with the grow box at the lower right if you need to see other ratios (for instance 1 1, actual size). Below the title bar is the character display area. It is here that the characters being adjusted are shown in context with other characters. The metrics window will always display the largest point size defined in the font. The widths in the boxes below the character display are normalized to that largest point size. Dotted horizontal lines are displayed to mark the position of the font's baseline, ascent and descent. Dotted vertical lines show the origin of the first character and the width of each **character**

Below the display area is a small rectangular area which contains a set of indicators (small inverted T shaped controls) one for each character displayed. The indicators mark the position of the characters width and are used for adjusting the **width and kerning pair information**

The bottom part of the window contains the adjustment area. This area is divided into a variable number of entries based upon the width of the window. Each entry may be empty or refer to a character. The characters shown in the display area are those referenced by the non empty entries in the adjustment area. The spacing for any combination of characters may

be examined by assigning them to consecutive entries in the metrics window and observing them in the display area

Collectively, the offset width and kerning pair information for a character are referred to as its metrics. You can edit and adjust the width and kerning pair information for a character in FONTastic Plus using the metrics window. The next section describes how to go about this.

Adjusting Character Metrics

Each entry in the adjustment area has controls for two spacing adjustments **Width** and **Kern**. In empty slots these controls are disabled, while in non-empty slots the controls display the current value of each of these adjustments. The value of each adjustment may be altered using one of the arrows contained in the control. Press the left arrow to reduce the value or the right arrow to increase it.

The width of a character is the increment applied to the current position after drawing the character. The next character's origin line lies on top of the current character's width line. In the character window, only integral values for character widths can be defined. However, you can define fractional widths for a FOND to get more precise spacing using the width control in the metrics window. You should note however that most Macintosh programs do not yet use these fractional widths.

The kern control is used to specify kerning pair information. It sets an adjustment to the width which is applied whenever this character and the character in the entry to the right appear in adjacent positions. The kern value may be negative but the sum of the kern and width values may not. The kern adjustment is enabled only if there is a character referenced by the entry to the right.

Note: Kerning pair information must be handled explicitly by an application program. You should be aware that most of the

software currently available for the Macintosh does not use this information. Here is a list of programs that explicitly support kerning pairs

Aldus FreeHand (all versions)
Aldus PageMaker 3.01
Quark XPress 2.1
ReadySetGo! 4.5

The Selected Entry

Only one of the entries in the adjustment area can be marked as the **selected entry**. Some of the operations performed in the metrics window affect only this selected entry. You'll be able to tell that an entry is selected if its character name label is highlighted. For example, the c character below is the selected entry

Changing the Selected Entry:

• Position the pointer on the label of the entry you want to select and click the mouse button

OR

• Repeatedly press the **tab** key until the desired entry is selected

Changing the Character Assigned to an Entry:

• Select the entry you wish to change.

• Type the desired character on the keyboard or select **Edit next** or **Edit previous** from the **Edit** menu.

Adjusting a Bitmap Character's Width:

WARNING: Do not adjust the widths of a PostScript font's characters in FONTastic Plus. You will end up with a spacing nightmare. For example, do not adjust the widths of the Times, Helvetica, Courier, or Symbol fonts. The only place to adjust such widths is in a PostScript font editing program like Fontographer.

• Press one of the arrows in the width control of the entry referencing the character. Use the left arrow to decrease the width, or the right arrow to increase it. Release the mouse button when the desired width is reached.

OR

• Position the pointer on the width indicator for the character
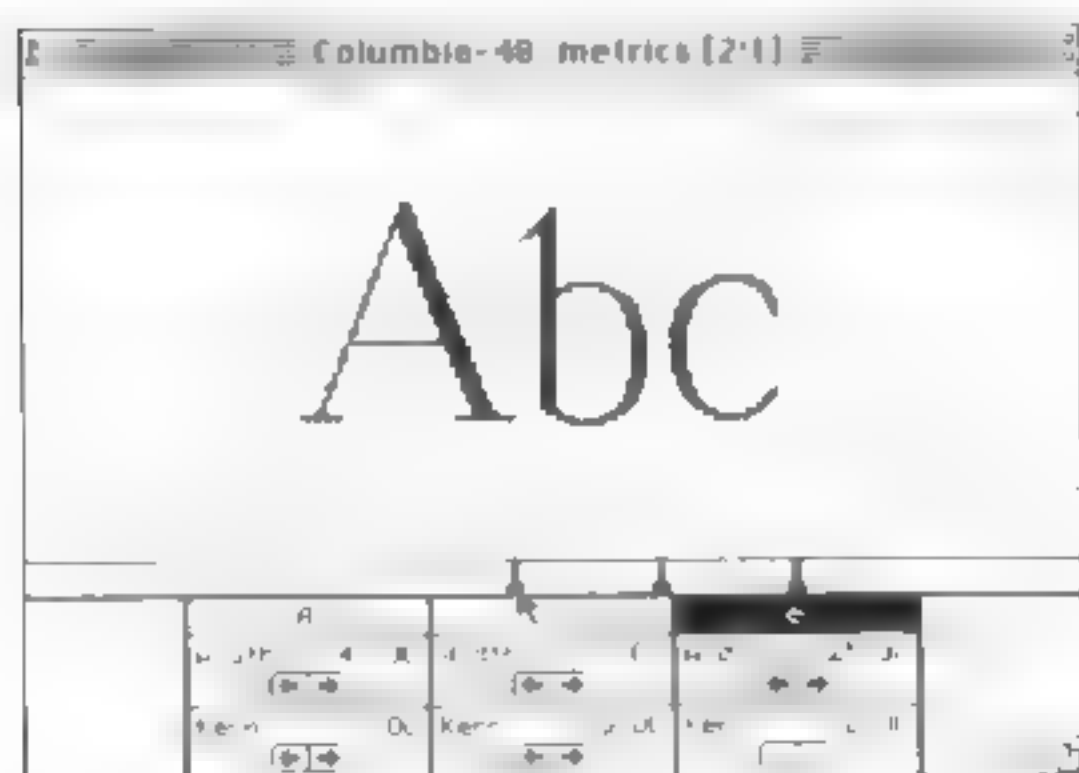
- Drag the indicator to the desired width and release the mouse button. You can press and hold down the command (⌘) key while dragging to perform a demagnified move. This decouples the pointer from the width indicator, allowing a smaller increment of adjustment. The value in the width control tracks the indicator as it is moved.
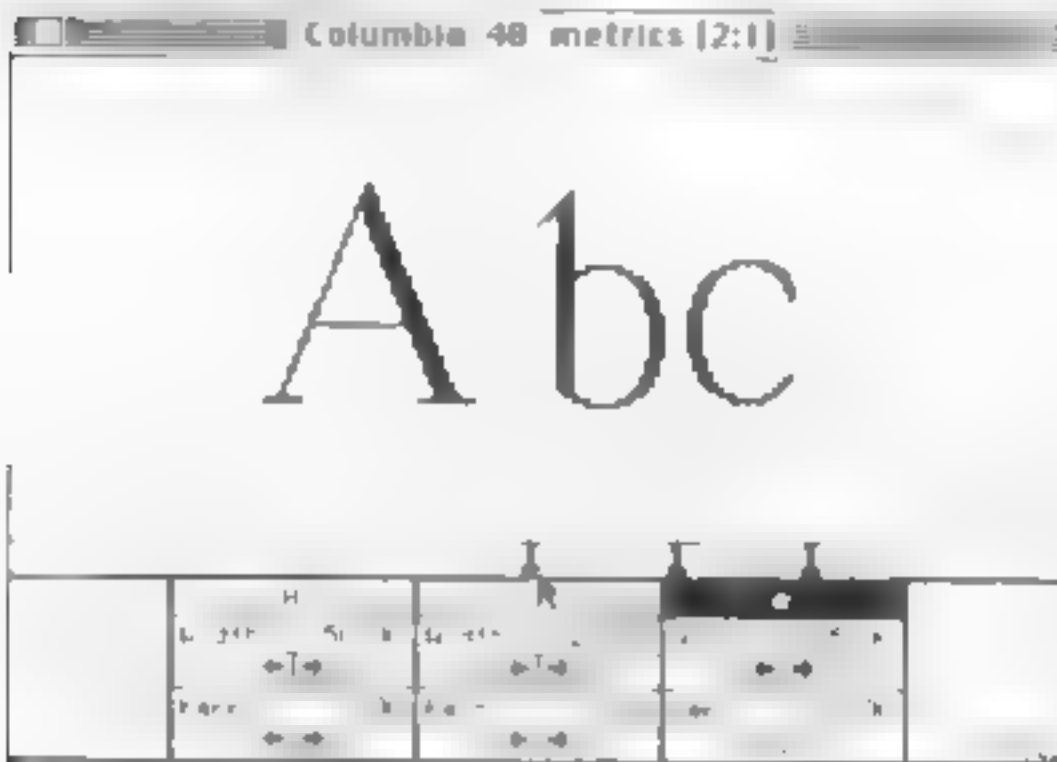
Adding a Kerning Pair to any Macintosh Font

You should note that you can add kerning pairs to any Macintosh font from any vendor. For instance you can add kerning pairs to fonts like Times, Helvetica, Courier, and Symbol. Note also that if you print documents with these modified fonts you must install your modified bitmaps into the System on the computer that does the printing. Kerning information is usually used by programs that print PostScript but bitmap fonts can also take advantage of kerning. Just make sure your application program explicitly supports kerning pairs.

- Make sure that the characters in the pair are assigned to adjacent entries in the metrics window.

- Press one of the arrows in the kerning pair control in the entry referencing the left character of the pair. Use the left arrow to tighten the spacing or the right arrow to loosen it. Release the mouse button when the desired amount of kerning is achieved.

OR

- Position the pointer on the width indicator of the left character in the pair

- Hold down the **option** key

- Drag the indicator to the position at which the desired amount of kerning is achieved, then release the mouse button. You may use demagnification by pressing the command (⌘) key. The value in the kerning control tracks the indicator as it is moved

Removing a Kerning Pair:

- Make sure that the characters in the pair are assigned to adjacent entries in the metrics window

- Use the arrows in the kerning pair control in the entry referencing the left character of the pair to set the kerning adjustment to zero. Release the mouse button when the value reaches zero

OR

- Position the pointer on the width indicator of the left character in the pair

- Press the **option** key

- Drag the indicator to the position at which the kerning offset becomes zero, then release the mouse button. You may use demagnification by pressing the command (⌘) key. The value in the kerning control tracks the indicator as it is moved

Copying Kerning Tables from FOND to FOND

You can copy the kerning table from one FOND to another. This will allow you to use one typeface's kerning table as the starting point for some other typeface's table. Here's how to do this:

- Open the FOND whose kerning table you wish to copy and choose the style you wish to copy

- Use the **Copy** item from the **Edit** menu to copy the kerning table into the Clipboard

- Open the FOND of your target typeface and choose the proper style

- **Paste** the kerning table from the Clipboard into the target FOND

You may also copy kerning tables from style to style within the same typeface family. Here's how to do this:

- With the metrics window for the source style selected choose the **Copy** item from the **Edit** menu

- Close the metrics window

- Double click on the family FOND again to open the metrics window again, this time choose the destination style from the style dialog

- Choose **Paste** from the **Edit** menu

Hints for Editing FONDs Effectively

If you are using any Macintosh except the original 128K Macintosh or the unenhanced 512K, the System will use the width information set up in the FOND instead of the individual widths set in the FONT NFNT. Therefore, before you define widths in the FOND using the metrics window, you need to make sure that you have defined widths in the FOND for all characters that are defined in the FONT NFNTs belonging to that FOND. If not, you will get inaccurate spacing for characters whose widths have not been set up in the FOND. When you're in the metrics window, you may use the command **Set FOND Widths From FONT** in the **Effects** menu to set all FOND widths to approximate values derived from the largest FONT NFNT available. This provides a good starting point for precise modification. If you perform this operation, any previously existing width information gets overwritten, so make sure you have another copy of any FOND that contains changes you've already made.

The **Set FONT Widths From FOND** command in the **Effects** menu can be used to quickly set the widths of a particular size bitmap font after you have changed width information in the FOND using the metrics window. It's a good idea to set all sizes of the bitmap font's widths from the FOND for optimal spacing. This will ensure that the widths for all sizes in the family are consistent

If the FONT NFNT widths differ from the FOND widths, character spacing is liable to be wrong. It will differ between the older Macintoshes and the newer ones (some difference is to be expected in any event). Worse, it will vary between programs which support fractional spacing and those which do not

Chapter 5

Hints for Advanced Usage

Chapter 5
Hints for Advanced Usage

Using FONTastic Plus with Fontographer

If you use FONTastic Plus to edit the bitmap counterpart of a PostScript font created with Fontographer, do not change the widths of the characters. If you change those widths with FONTastic Plus the spacing relationships set up by Fontographer will be destroyed. The screen character spacing would then be different than the printer spacing, resulting in ugly and inconsistent spacing in printed results. This warning applies to any PostScript font.

Copying FONTs

When copying FONTs from one file to another in FONTastic Plus, all associated FONDs are also copied. For example if you copied the FONT Cooper 12 to another file and Cooper 12 happened to belong to the FONDs Cooper, CooperBold and CooperBoldItalic, all three of these FONDs would be copied and would appear in the selection list of the destination file along with the FONT Cooper 12. You may only have intended or needed the FOND Cooper, and feel the selection list is cluttered with the additional FONDs. FONTastic Plus works this way to be compatible with Apple's Font/DA Mover.

You can get rid of these unnecessary FONDs without having to worry about deleting Cooper 12. As long as a FONT be

longs to at least one other FOND that you're not deleting, the FONT won't be deleted. Therefore, you may remove the unnecessary FONDs CooperBold and CooperBoldItalic.

Setting Widths for FONTs from the FOND

If you use the **Effects** menu's **Set FONT Widths from FOND** to set the widths for your FONT from the fractional width tables in the FOND, make sure that you have set up some width in the FOND for each character defined in all the FONTs. If you don't make sure there is a fractional width for every character, you'll get very strange widths for any character whose width is not defined in the FOND.

Defining a Non-White Space Character

The Macintosh does not treat the space character as a normal character; it is always drawn as a white space. If you want a black space — as for the NYNights FONT supplied on the FONTastic Plus disk — use the non-breaking space character (entered by typing option-space). You will have to handle line wrap manually, by inserting a true blank.

Assigning FONT IDs

When assigning ID numbers to FONTs, there are a few things to be aware of. They are as follows:

1. We recommended that you avoid using FOND IDs greater than 255 if your typeface contains FONTs. FONDs with FONTs attached and IDs greater than 255 may cause problems with certain versions of the Font DA Mover. If however, your typeface has NFNTs in it, you must use a FOND ID between 1024 and 16383. We advise you to convert all

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FONTs to NFNTs with the **Convert family to NFNT** item from the file menu so as to avoid the problem of conflicting FONT IDs

2   Many applications use FONTs for their tool palettes. It is therefore possible that the number you assign to your FONT may conflict with the application's FONT ID for its tool palette. The result of this is that you see your FONT instead of seeing the tool palette when you open the application. To avoid this problem we suggest that you do not number your FONTs with the following IDs: 248, 249, 250, 384, and 510

Changing FOND/FONT ID and Name

To quickly change a FOND or a FONT ID or name when the file window is active use the **Font attributes...** item from the **File** menu. Select the FONT or the FOND to be changed, choose the **Font attributes...** item and type in the new name and/or ID. This is quicker and better than editing and then performing a **Save a copy as...** since it updates all FONDs which reference the FONT.

If you change the ID of a FOND make sure you make a corresponding change to one of the FONTs attached to that FOND. For example if you change the FOND ID of the Scan FOND from 204 to 227 you must change the Scan 48 FONT ID from 204 to 227 likewise. As above use the **File** menu's **Font attributes...** item to quickly change the ID of a selected FOND or FONT. This process is not necessary if there are only NFNTs attached to your FOND

Developing Fonts for Commercial Use

Altsys places no licensing requirements on fonts you make and you are free to commercialize your fonts in any way desired.

When developing fonts for commercial use, the FONTastic Plus font files should be converted to the FONT/DA Mover font file types. This is a simple task.

- Start the FONT/DA Mover
- Open the FONTastic Plus file
- Create a new file (FONT/DA Mover assigns its own file type, and the standard suitcase icon)
- Copy the contents of the FONTastic Plus file into the FONT/DA Mover file

Building Families of FONTs/NFNTs

If you need to develop your own family of FONTs, merging various styles into a single FOND, you may use either the NFNT conversion capabilities in FONTastic Plus or Altsys Family Builder program. If you are creating strictly bitmap FONTs with FONTastic Plus, then the NFNT route is the easiest and most convenient. If you are creating PostScript typefaces you will need the Family Builder.

For details on the price and availability of Family Builder, contact Altsys Corporation.

What are NFNTs?

NFNTs are an extension of the Macintosh typeface handling system. They allow for FOND ID numbers much larger than 256 and should allow you to use many more typefaces without causing numbering conflicts.

NFNTs also allow related typefaces to share the same FOND resource, making it easier to build families of typefaces.

Some Definitions:

Typeface family: a group of faces that are built on a base typeface. For example New York, New York Bold, New York Italic, and New York BoldItalic are all in the same family.
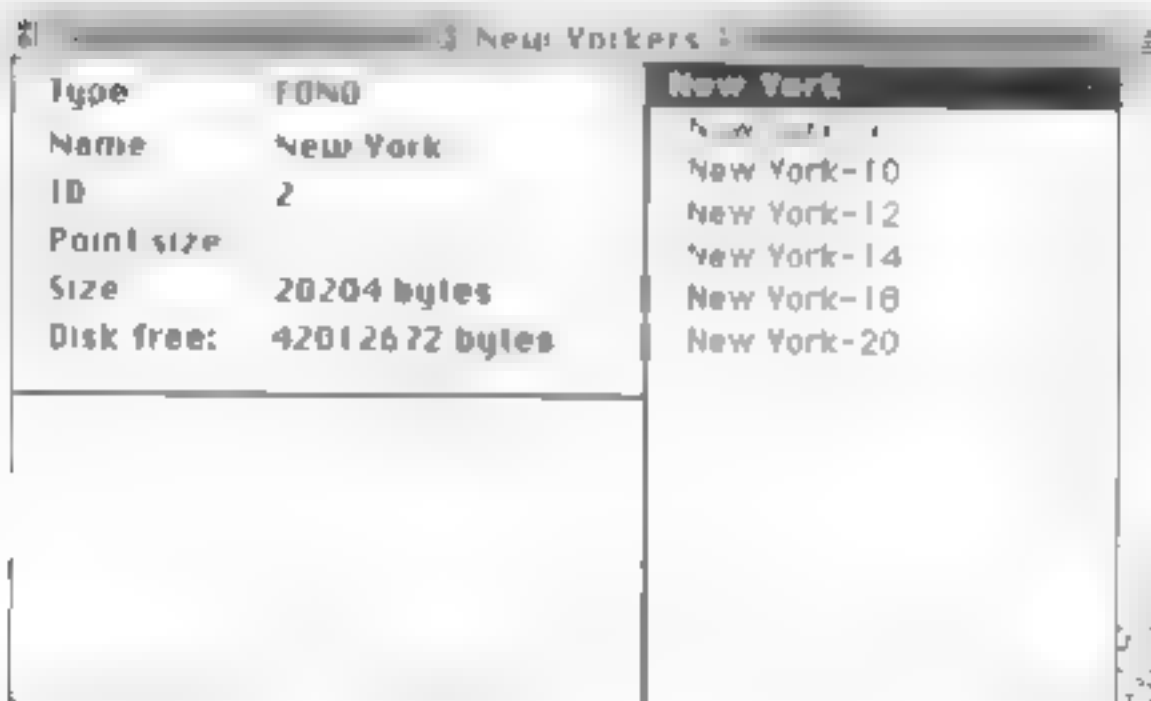
Base face: the unstyled or plain version of a typeface. For example, New York is the base face for the New York family of typefaces.

Styled face: a face that has been reshaped by one of the effects in FONTastic Plus's Effects menu or has been created from scratch with an effect already in use, but based on some base face. For example, New York Italic is a styled face.

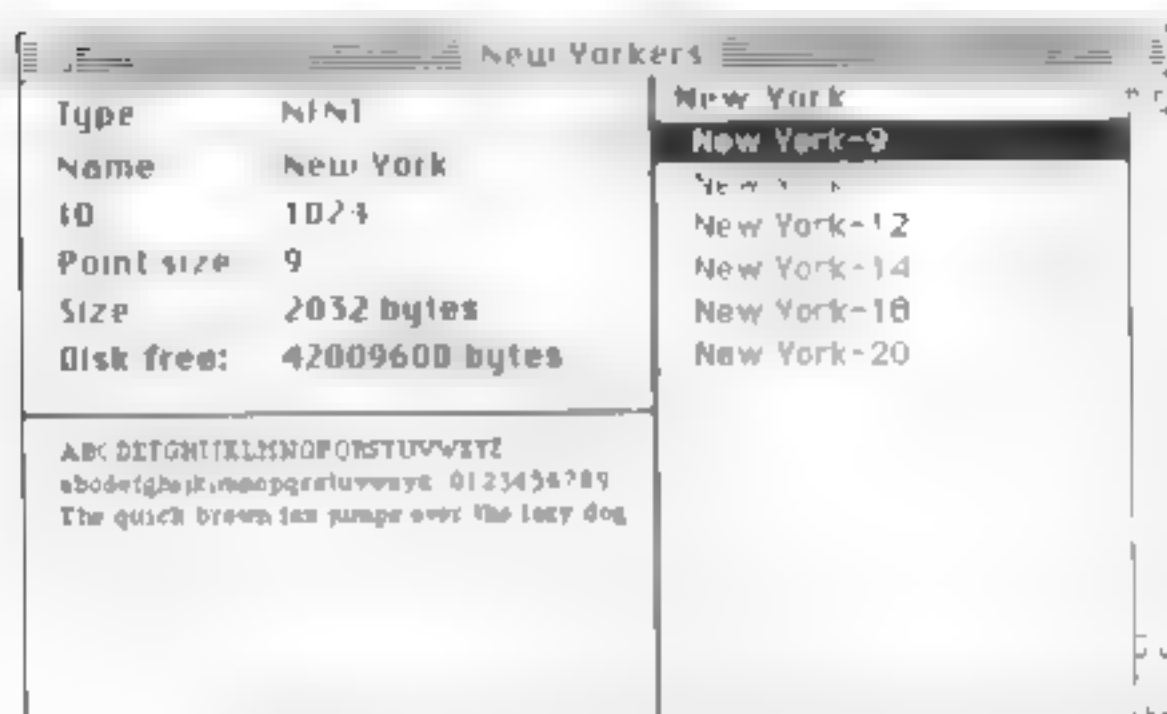## Creating a Family of Faces

- Select the FOND (the bolded name in the selection list) of the face you wish to be the base face.

Type	FOND
Name	New York
ID	2
Point size	
Size	20204 bytes
Disk free:	42012672 bytes

New York
New York-
New York-10
New York-12
New York-14
New York-18
New York-20

- Choose the **Convert family to NFNT** item from the **File** menu

• The conversion will occur and you'll see NFNT for the **Type:** in the title window if you select one of the point sizes of the newly converted family.

		New Yorkers
Type	NFNT	New York
Name	New York	**New York-9**
ID	1024	New York
Point size	9	New York-12
Size	2032 bytes	New York-14
Disk free:	42009600 bytes	New York-18
		New York-20

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 0123456789
The quick brown fox jumps over the lazy dog

If you need to convert an NFNT family back to FONTs, do exactly as above except this time the menu item will read **Convert family to FONT** instead of **Convert family to NFNT**. Apple's Font DA Mover version 3.6 or earlier will not properly handle families converted back to FONTs, so it is best to go back to the original family rather than convert back to FONTs.

When you've done the NFNT conversion for all the various styled faces of the family, you're ready to bring them together. Here's how:

• Select one of the styled NFNTs and open its font window.

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· Use the **Save as...** item from the file menu and you'll get this dialog

```
Save NFNT as

Family name    [New York]

Family ID      [1024]

Size           [14]

Style:         ○ Plain    ● Italic

               Bold       ○ Bold Italic

     ( Save )              ( Cancel )
```

· Make sure that the **Family name:** and **Family ID:** fields match those of your base FOND, then click in the proper **Style:** button

· Click in the **Save** button or press **return**

Do this for each of the styled sizes that you have and you will end up with a family of NFNTs with only one FOND to choose in your Font menu. Now when you choose a size from your **Style** menu (or **Type** dialog) your hand tuned style will show up instead of the Macintosh's rather uglier synthesized style.

Note: This process does not work for PostScript fonts. You must use Altsys' Family Builder if you wish to create families of PostScript fonts.

LaserWriter Typefaces

FONTastic Plus bitmap FONTs NFNTs are compatible with the LaserWriter but do not print as smoothly nor as quickly as the built in LaserWriter typefaces. Even with smoothing turned on, bitmapped FONTs are inferior to the PostScript typefaces developed especially for the LaserWriter. The only time this advice does not hold true is when you have built an exact 4X size font and use the 1 4 size font on screen. Then your printouts will be at least the equal of PostScript printouts.

When you wish to develop your own family of typefaces for the LaserWriter and other PostScript compatible devices you will need Fontographer.

Fontographer is a professional PostScript typeface editor for the Macintosh computer. It allows you to construct true outline typefaces and automatically generates PostScript files which can be downloaded to the LaserWriter. Fontographer's typefaces work just like the standard built in LaserWriter typefaces giving you fast high resolution printing.

For details on price and availability of Fontographer contact Altsys Corporation.

Kerning PostScript Typefaces

As described in Chapter 4 you may set or edit the kerning pairs of any PostScript typeface. However you must **never** use FONTastic Plus to change the character widths of any PostScript typeface.
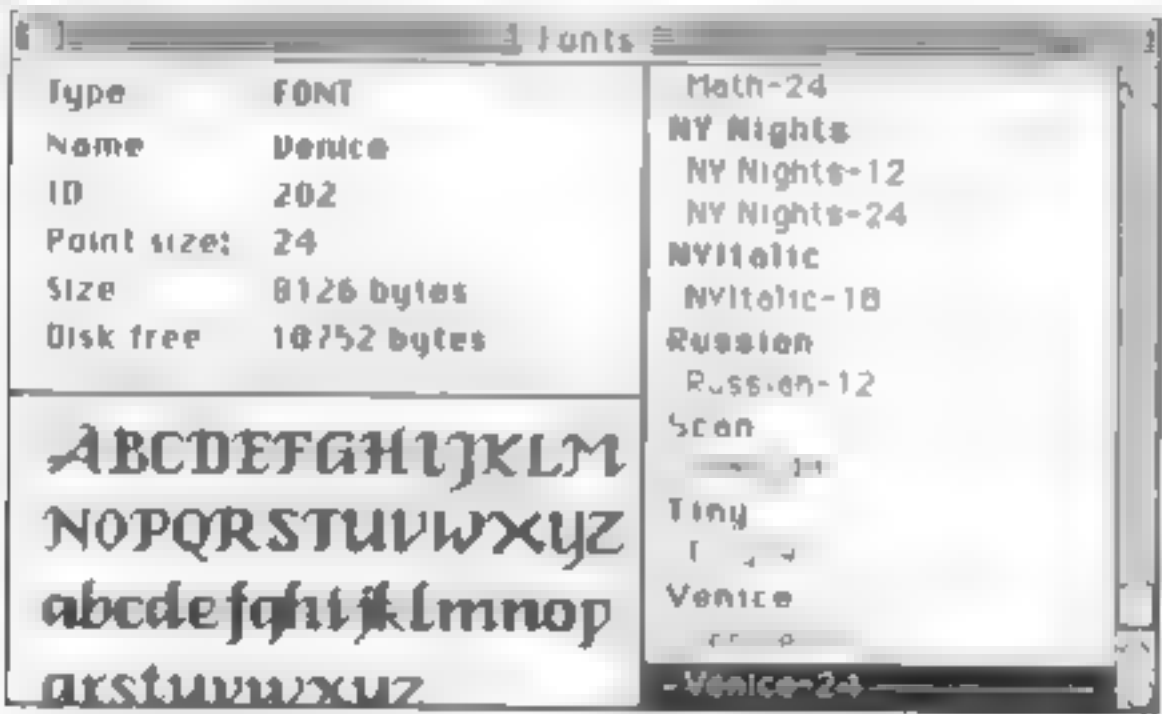
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Chapter 6

Reference

Reference

File Window

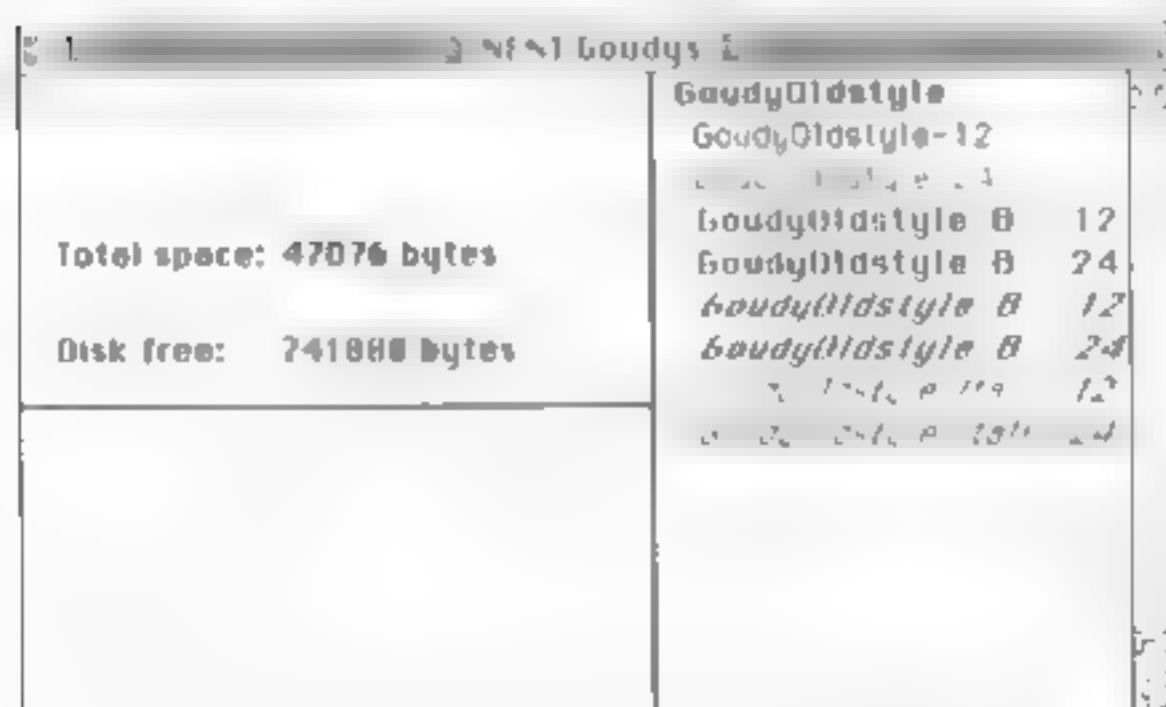This is the window you see after opening a file from within FONTastic Plus

It has a standard title bar and close box at the top, a scrollbar and size box down the right. The file window may be moved, resized, and closed like any other window

Just below the title bar on the left is the FONT/FOND information section. The amount of available free space left on the disk is given next to **Disk free:** If a single FONT/NFNT is selected the name of the FONT/NFNT its ID the point size and the its size in bytes is displayed. If several fonts are selected the total space occupied by the selected fonts is given next to the **Total space:** field. If a FOND is selected its name

and ID are given along with the size of the total space occupied by the FOND and all the FONT/NFNTs in its family.

Directly below the FONT/FOND information section is the sample text area. If a single FONT/NFNT is selected sample text is displayed using that FONT/NFNT. This sample text area shows what the FONT or NFNT will look like if displayed or printed by an application that understands fractional widths. If this sample text area looks weird you probably need to define the NULL character (character 00 decimal) by dropping some points into it. Then open the metrics window for the FOND in question and use the **Effects** menu's **Set FOND widths from FONT** item. This process usually needs to be carried out on fonts that were created in other font editors or are very old.

To the right of both of these sections is the selection list. All FONDs, FONTs and NFNTs located in this file are displayed in this section. FONDs are indicated in bold text. FONTs are indented listed in plain text and have their point size appended to their name. NFNTs are displayed in the appropriate style. You can use the scroll bar on the right to scroll through the selection of FONDs, FONTs and NFNTs.

Font Window
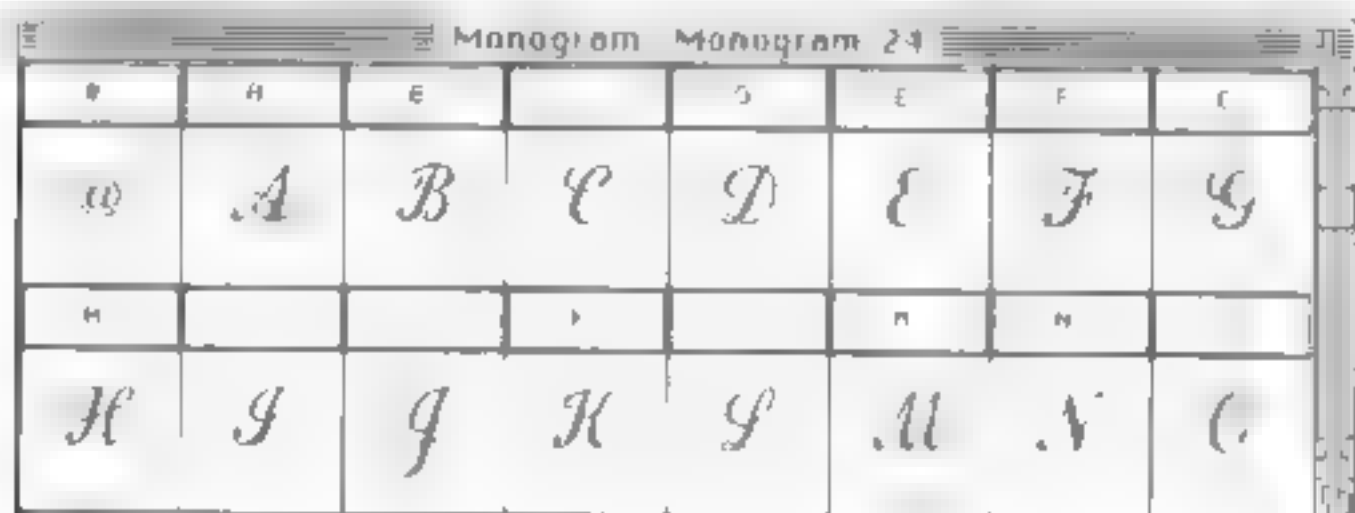
This is the window you'll see after opening a FONT

It has a standard title bar and close box along the top, and a scroll bar and size box along the right. The FONT window may be moved, resized and closed like any other window. Scroll up or down to reveal all the characters in the FONT.

The FONT window shows the characters of your FONT in a matrix. Each position of the matrix is labelled with either the keycode, character number, offset or width, depending on which option in the **View** menu has been chosen. The label has a bold outline if the character has been defined in the FONT. The label is inverted if the character has been edited but not saved. Under the label is the character box which shows each character.

Selected characters are highlighted in the font window. Select a character by clicking in its box or typing it on the keyboard. A range of contiguous characters may be selected by dragging through it.

Most operations like **Cut Copy Paste Clear** or effects op

erations such as **Style Horizontal flip Vertical flip** or **Rotate** operate only on the selected characters **Scale entire font...** always operates on all the characters of a font at once

Character Window
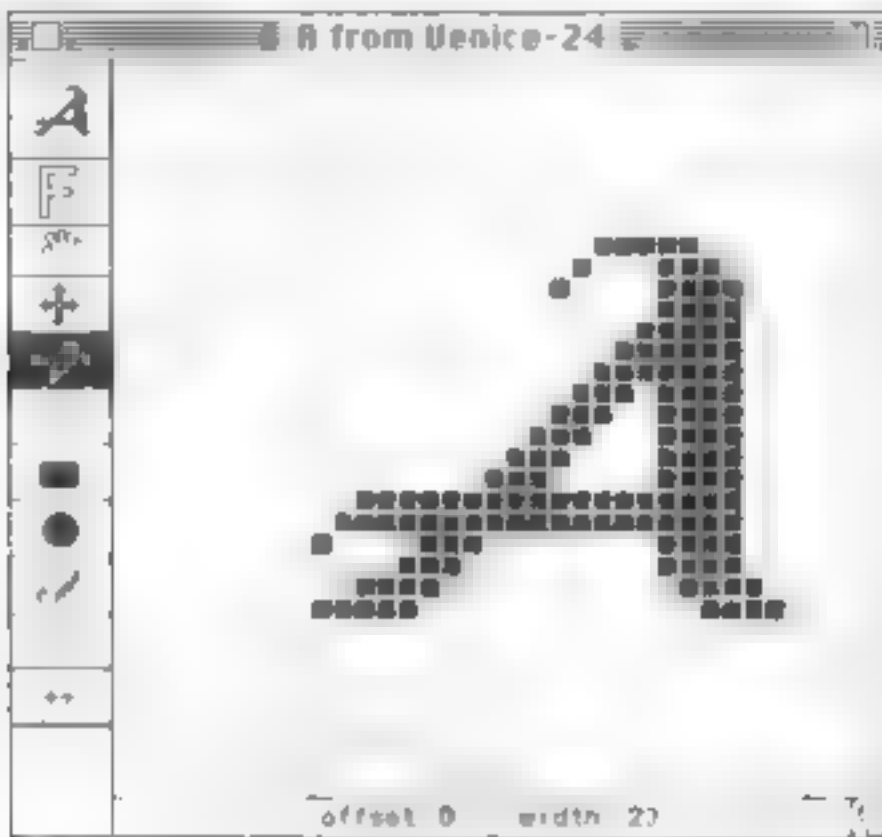
Characters are edited in the character window. This window has a standard title bar and close box along the top. It also has a size box in the lower right hand corner.

The largest area of the window is the central edit area. This is where all drawing and editing takes place. The character appearing here may be moved around with the scroll hand. When you first open the character window, the character appears at eight times its actual size. You can also see and work with the character at four times, or two times its actual size by selecting **4x magnification** or **2x magnification** respectively from the **View** menu.

The offset and width values for the character are indicated along the bottom of the character window.

Note If you have edited to the left of the origin, the offset changes to a negative number. If you subsequently erase what you have added to the left of the origin, the offset will

remain negative even though no dots appear to the left of the origin guideline. The offset remains negative until you either switch to another character or close the character window, at which time the white space is eliminated and the offset is updated. The same situation exists when you draw to the right of the origin when creating a new character. The offset will remain zero even though you may have white space before the first dots of the character. When you switch to another character or close the character window, the white space will be removed and added to the character's offset.

Indiscriminate setting of origin and width in FONTastic Plus can create the effects illustrated below.
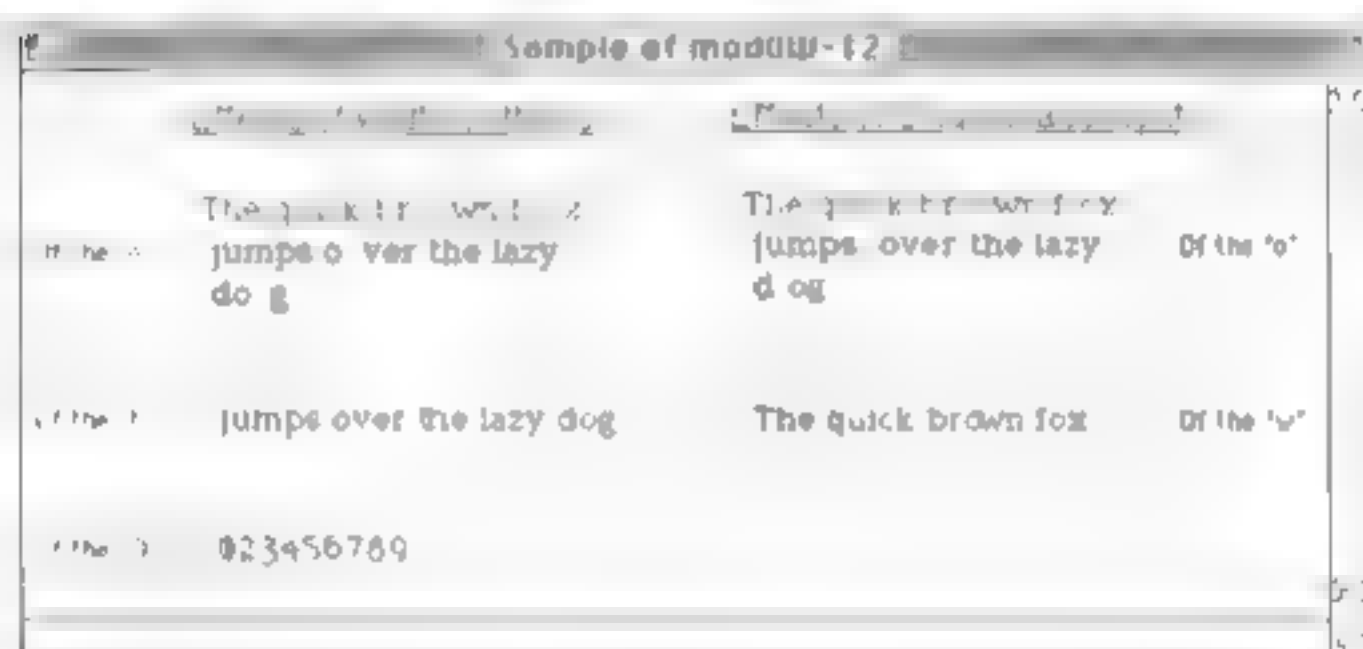
Down the left side of the character window is the actual size character, the current plane indicator, and the editing tools.

The character at its actual size is shown in the top box on the left side. (Actually what appears in this box is the center of the central dot area if this area is greater than 35 dots wide or high.) This allows you to see what your character actually looks like while you are editing.

The second box from the top is the current plane indicator. Successive clicks in this indicator step from Foreground to Background to Guidelines and back to Foreground. Drawing and editing occur in the currently selected plane for Foreground and Background planes. You can only add, move or remove guidelines while the Guideline plane is selected.

Hand. The hand tool is used to scroll the entire character window. It is useful when characters are too large to fit into the edit window. It does not change the character but simply moves it on the screen.

• Select the hand tool and position the pointer over any part of the edit area. Drag the character to the position you desire.

• You can also use the hand without having to select the hand tool by pressing the **option** key simultaneously with the mouse button. This changes the currently selected tool into the hand which can then be used to drag the edit area.

Four-arrow Tool. The four-arrow tool is used to scroll the character between the ascent and descent guidelines as well as between the origin and width guidelines. It actually changes the character by moving all the dots which make that character.

• Select the four-arrow tool and position the pointer over the character. Drag the character to the position that you desire. Be careful not to drag the character above the ascent line or below the descent line because if you do the part that sticks out will be lost. A character may only be offset a maximum of 99 points. The limit on the width of a character is 255 points.

Pencil. The pencil tool is used for drawing or erasing dot by dot. You can either drag or click with the pencil. Clicking draws just one dot. Dragging produces a line. Holding down the shift key when beginning a drag constrains the points drawn to a straight line.

Line. The line tool is used to draw straight lines either vertically, horizontally or diagonally. Holding down the **shift** key when beginning a drag constrains you to straight horizontal or vertical lines.

- Select the line tool and position the pointer where you wish to start the line.

- Press down the mouse button and drag the other end of the line to where you want it. The line is drawn after you release the button.

Box. The box tool is used for drawing and then filling in rectangular areas either in black or white.

To fill a rectangular area with black

- Select the box tool and position the pointer where you wish to start the box.

- Press down the mouse button and drag the pointer in the direction that you want the box to be drawn. A rectangular outline the size of the box appears as you are dragging. The box is filled in as soon as you let up on the button.

To fill a rectangular area with white

- Hold down the command key (⌘) then push down the mouse button and drag the pointer in the direction that you want the box to be drawn. When you let up on the mouse button, the box is drawn in white.

To obtain an outline of a rectangular area

- Draw the rectangle filling it with black as described above.

- Determine the thickness of the outline and position the pointer that many fatbits inside the black rectangle.

- Draw a second rectangle inside the first filling it with white as described above. You now have a rectangular outline.

If you hold down the **shift** key while dragging with the box tool, you will always get a square.

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Circle. The circle tool is used for drawing and then filling circles or ovals in either black or white

To fill a circular or oval area with black

- Select the circle tool and position the pointer where you wish to start the circle

- Press down the mouse button and drag the pointer in the direction that you want the circle to be drawn An oval outline the size of the circle appears as you are dragging The oval is filled in black in as soon as you let up on the mouse button Hold down the shift key before and during the drag to constrain the oval to be a circle

To fill a circular or oval area with white

- Hold down the command key (⌘) simultaneously with the mouse button and drag the pointer in the direction that you want the circle to be drawn The oval or circle is filled in with white as soon as you let up on the mouse button Hold the **shift** key down before and during the drag to constrain the oval to be a circle

Eraser. The eraser tool is used for erasing large areas

- Select the eraser tool position the pointer where you wish to erase and press down on the mouse button The dots under the eraser are erased

Selection Rectangle. The dashed selection rectangle is used for selecting areas to cut copy or paste This tool is also used to move selected areas and to scale selected bits

Width Tool. The width tool is used to set the width for each individual character. You cannot set the width of a character beyond 255 points, since that is the limit for character widths on the Macintosh.

- Select the width tool and position the pointer on top of the width guideline.

- Press down on the mouse button and drag the width guide line to the location that you desire.

Sample Window
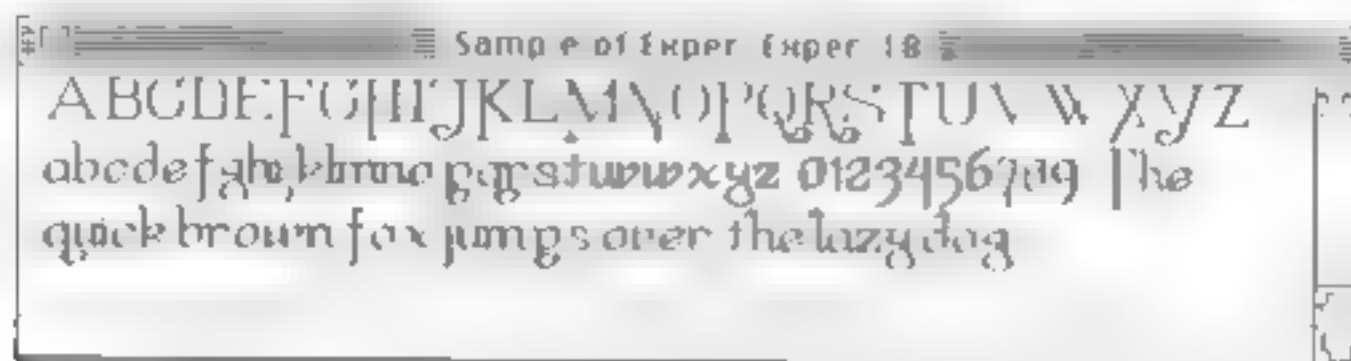
The sample window displays text in the font currently being edited. This window displays fractional width samples only when the metrics window is selected. When the font window or character edit window are selected it shows integer width samples. You can alternately select the metrics window and the font window to see the difference between the two kinds of spacing.

It has a standard title bar and close box along the top and a scroll bar and size box along the right.

Each font can have its own sample window(s). You may open and edit any text file or create a new sample file. You can edit the text files using the regular text editing commands (this window also supports the clipboard).

Any changes to the font shown in the sample window will show up immediately, so if you want to see your edited character in context leave a sample window showing while you do character editing.

The Metrics Window
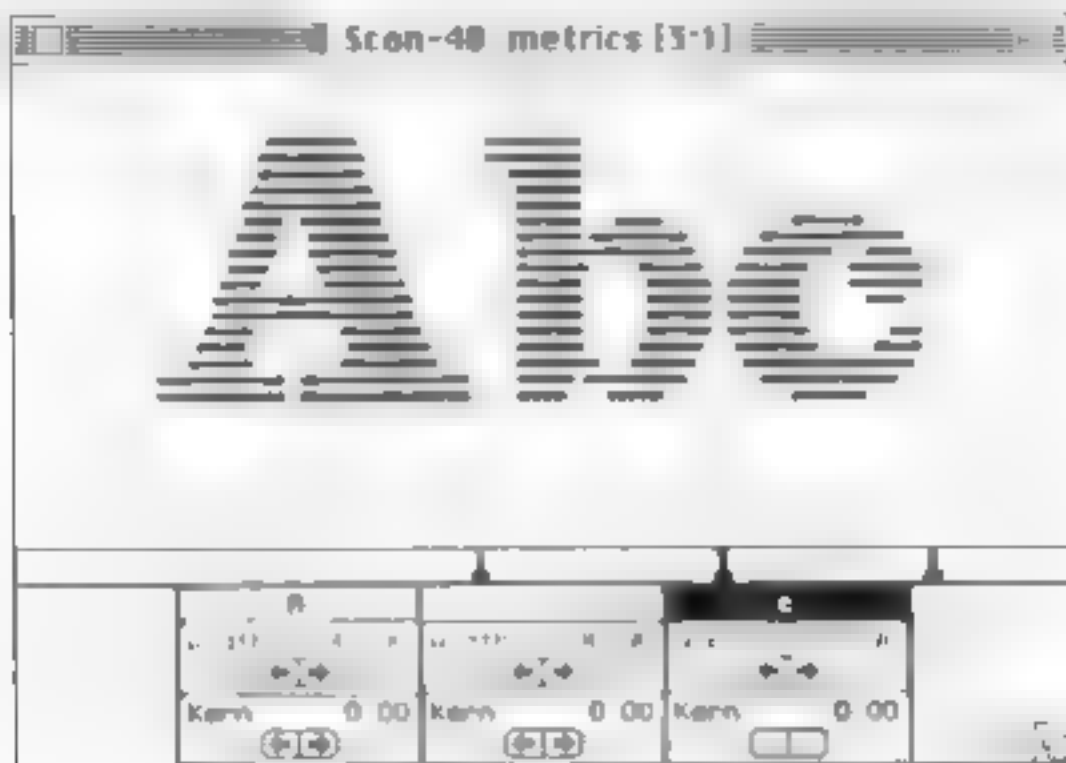
The metrics window is opened when you open a FOND for editing. It is used to set fractional character width spacing for the FOND and kerning pairs.

To open the metrics window, select a FOND from the selection list of the file window and either double click on the FOND name or select **Open fond** from the **File** menu. The metrics window is initially empty when opened and the center character position is selected.

The window has a standard title bar and close box. No scroll bars are displayed, but the bottom right corner has a size box which allows the window to be resized.

The central portion of the window shows several characters across the screen. Showing several characters makes it easier to see the relationships between the spacings of several characters. Dotted lines indicate common baseline and width indicator lines for all the characters.

The small inverted "T" shaped controls at the bottom of the width lines are width adjustment controls. To adjust kerning with these controls hold down the **option** key while adjusting the control associated with the left character in a kerning pair.

Under the width adjustment controls is a row of rectangles that shows the character name currently assigned to each metrics window slot. One entry is highlighted, this is the selected entry which is logically connected to the keyboard. Typing a key changes the character assigned to this entry. Advance the selection to the next entry by typing the **tab** key, or clicking on the entry you wish to select.

Below the name boxes are width and kern indicators. Each may be changed by clicking in the adjusting arrows associated with that control.

All direct adjustments are made by dragging the indicator. Such drags may be demagnified (performed with greater-than-normal precision 0.1 units per pixel drag) by pressing the command (⌘) key during the drag.

You can adjust character widths by dragging the width indicators left or right, or by changing the width value with the arrows that point left and right.

Kerning pairs are adjusted by dragging the width indicator of the left character of the pair while the **option** key is held down. They may also be set by changing the left character's kern value with the left-right arrows. If the kerning value of a character is non-zero, that character and the one to its right are defined as a kerning pair. Change the kern value back to zero to remove that kerning pair.

Note: Values in the width and kerning indicator boxes are in points based on the largest point size in the style being edited.

Apple Menu

Select the **About FONTastic Plus...** entry from the **Apple** menu to see the current version number of this copy of FONTastic Plus. Click in the box to continue.

File Menu

```
File
  New file
  Open file
  New font        ⌘N
  Open font        ⌘O

  Close
  Save             ⌘S
  Save as
  Save a copy as ..
  Revert

  Font attributes ..  ⌘I
  Convert family to NFNT

  New sample
  Open sample
  Page setup
  Print sample...
  Quit             ⌘Q
```

The **File** menu features operations which open or close win
dows and deal with font and sample text files

New file... creates a new font file. This command is active
from all windows. A file directory window is presented in
which file names on the disk are dimmed and you are request
ed to enter the name of the new file you wish to create. A new
file is created to which fonts may be added. The new file win
dow opens and becomes the active window

Open file... opens an existing file which can contain
fonts. This command is active from all windows. A file direc
tory window is presented from which you select the file name
that you wish to open. The file window for the selected file
opens and becomes the active window

New font... opens a new unnamed font. This command is
only highlighted when you have a file window active. The
new font is placed in the active file (the file specified as the
active file window). A dialog box will appear in which you
specify the point size for the new font. An empty font window
will then appear

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Open fond/font/character changes depending on the window that is active. If a file window is the active window and a single font has been selected, this menu item reads **Open font.** The result of this command is to open up the font window for editing the selected font. If a file window is active and a single FOND has been selected, the menu reads **Open fond.** The result of this command is to open up the metrics window for the selected FOND. If a font window is the active window and either a single character or a range of characters are selected, this menu item reads **Open character.** The result of this command is to open up the character window for the selected characters.

Close closes the currently active window and any associated windows. The effect is the same as clicking in the window's close box.

Save writes the characters from the currently active font to the font file it came from.

Save as... does the same as Save, only it allows you to change the name and ID of the font being saved.

Save a copy as... allows you to save the font from the currently active font window to a different file without changing the name of the currently active font.

Save current font onto: Fonts

File   New File

Name   VeniceItalic

Size   24

Font ID.

Save   Cancel
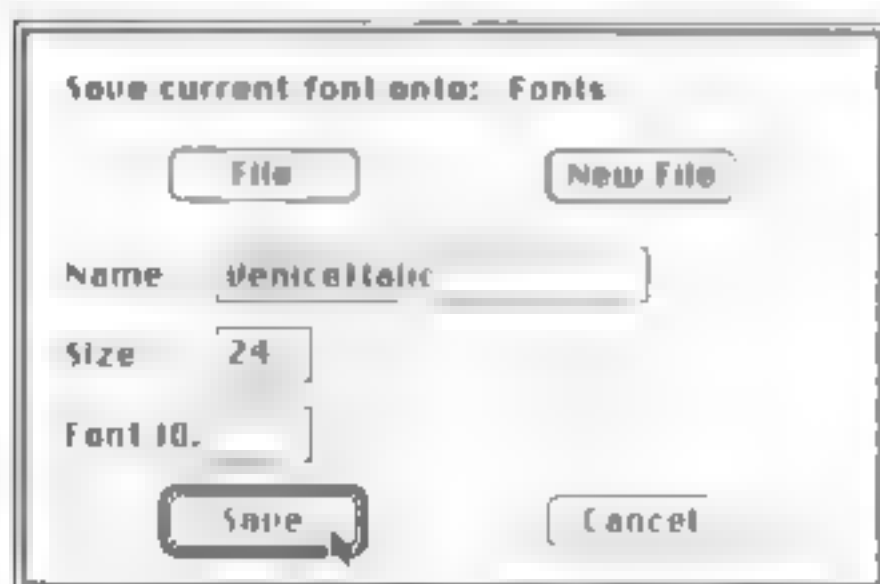
To Change or Supply a Name

Before you decide on a FONT name you need to know two things:

1. Do not use special characters in FONT names. Parentheses or slashes in particular cause problems in software which uses font menus.

2. Macintosh software distinguishes between capital letters and lower case letters. Thus a font named "Chicago" would be identified as different from one named "CHICAGO".

To Disguise the Point Size

Some software accepts only fonts that are assigned certain sizes (typically 9 point or larger.) However, you may wish to use a font of a different size (6 point, for example.) In that case you would disguise your font's point size.

• Select the size field that is provided in the **Save as** window

• Type in the new size (9, in this example)

Note: This command changes the name (for example, from MyFont 6 to MyFont 9) but does not change the actual size of the font. This trick works only with bitmap printers; it will not work with PostScript printers.

• Click on **Save** if the other choices are satisfactory

To Change the ID Number

FONTastic Plus automatically assigns to a new FONT or NFNT one of the ID numbers that is not already used in your fonts file. Normally, therefore, you do not need to worry about the ID. But if there is an ID conflict you'll need to change it.

The Macintosh operating system recognizes FONT IDs from 0 to 511. While FONTastic Plus can handle IDs up to 511, the FONT DA Mover version 3.6 or lower (from Apple) can only

handle IDs less than or equal to 255. If you use FONTastic Plus to install and copy fonts you can use IDs greater than 255. It is highly recommended, however, that you avoid using FONT IDs greater than 255. Apple has warned that FONTs with IDs greater than 255 may cause problems. Note that FONTastic Plus automatically assigns ID numbers starting from 200 and working up.

If you are using NFNTs, note that the only ID number you should worry about is the FOND ID which should range between 1024 and 4071 if you create fonts non-commercially. NFNT IDs are assigned randomly by the Font DA Mover or FONTastic Plus whenever you move NFNTs from one file to another, and thus do not need to be assigned any special number. FONDs attached to NFNTs should have a unique ID that will not clash with IDs from any other source. This will be true if you buy typefaces from any commercial vendor who has registered FOND IDs with Apple.

Saving the Font to Another File on the Same Disk

The file that the font is saved to by default is named at the top of the **Save a copy as...** window. However, you can use this window to save the font to different file on the same disk.

• Select **Save a copy as...** from the **File** menu

• Click on **File**

The disk directory window will appear

• Double click on the name of the file you want to save your font to.

You are returned to the **Save a copy as...** window where the name of the new file now appears

• Click on **Save**

Creating a New File and Saving a Font to It

Once you are in the font window, you may use the **Save a copy as** window for creating a new font file, then saving your selected font to it

- Select **Save a copy as...** from the **File** menu to open the **Save a copy as** window

- Click on **New file**

A new window appears which allows you to name your new font file

- **Type** the name of your new file

- Click on **Save**

Your new file is created, and you are returned to the **Save as** window

- If necessary, type in the name of your font and make the other changes you desire

- Click on **Save**

Now your font is saved to the new font file and you are returned to the font window

Revert returns you to the last saved version of the entire font or just one character, depending on the type of window currently active. You are asked to confirm this operation since it overwrites any changes you have made to the font or character since the last save, and cannot be undone

Font attributes... displays information about the currently active font. You may change the ascent, descent and leading from this window. When the file window is active and a single FOND FONT or NFNT is active it displays the name and the ID of the selected FOND FONT or NFNT

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You may change the name and the ID. This is a quick and easy way of changing the name and/or the ID. All relevant FONDs, FONTs, NFNTs are appropriately updated.

NOTE: You can reduce ascent or descent settings so much that the tops or bottoms of your characters may be cut off as shown below. The following will happen:

1.   FONTastic Plus warns you that your change will destroy part of your characters (there will be a loss of data).

2. You choose either OK or Cancel.
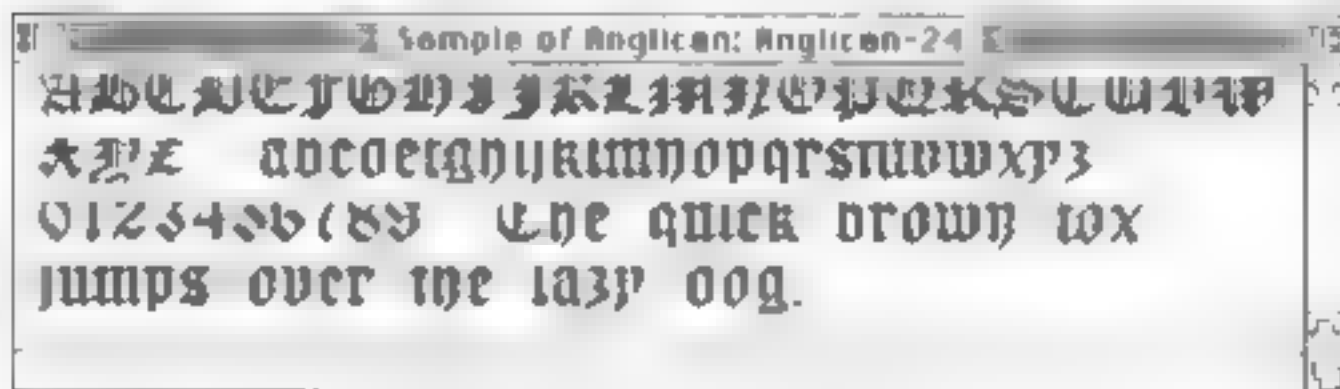
Warning: if you reply OK, you cannot recover those missing parts with Undo. You must Revert to a previously saved version of the font, and you will lose all the changes made since the last Save.

Convert family to NFNT gives you the ability to convert a whole family of FONTs to their NFNT form, making FOND ID conflicts much less of a problem than they used to be. If you are converting a FONT family with separate FONDs for each style, be careful when converting to NFNTs to select the base (unstyled) FOND for the conversion. Do not select a styled FOND or you will break up a previously stable family of fonts and make proper family recreation very difficult. This also implies that you should always do the conversion to NFNTs on a backup copy of the family and never convert your original.

If you need to convert an NFNT family back to FONTs select the family FOND and then choose this menu item. It will read **Convert family to FONT** instead of **Convert family to NFNT**. Apples Font DA Mover version 3.6 or

earlier will not properly handle families convert back to FONTs so it is best to go back to the original family rather than convert back to FONTs

Normal conversion of a FONT family to an NFNT family means that any FOND resources that are part of a FONT family (the Bold or Italic or BoldItalic FONDS) will go away since they are no longer needed. All the information in these FOND resources is incorporated into the new base FOND resource by the conversion process. That is why when you open a FOND resource with family information in it you are greeted with a dialog that asks you to choose a style with which to work. All the width and kerning table information for all of an NFNT family's styles are now stored in a single FOND resource

New sample lets you create a sample text file. It is initialized to a default string and displays the text in the sample window for the currently active font. This menu item is only highlighted when a font window or character window is active

Open sample... lets you open any text file. It displays the text in the sample window for the currently active font. This menu item is only highlighted when a font window or character window is active

Note: The sample text files can be saved using the commands **Save** and **Save as...**

Page setup... displays a dialog box in which you specify the type of paper and page orientation you wish to use when printing a font sample. This menu item is only highlighted when the sample window is active.

Print sample... prints a sample of your font. This menu item is only highlighted when a sample window is active. A dialog box appears asking whether you want to print the text in the sample window or the keymap for the font. You can print to either an ImageWriter or a LaserWriter printer. The font that prints will be the actual size you have chosen in the font

window not any higher resolution 2X or 4X font you may have created

Quit closes all windows and quits FONTastic Plus returning you to the Finder. If any windows have information that has not been saved you are asked whether you wish to save those fonts before quitting. Respond **Yes** to save the font **No** to throw away all your changes or **Cancel** to cancel the quit operation

Edit Menu

Edit	
Undo pencil	⌘Z
Redo pencil	⌘Y
Cut	⌘X
Copy	⌘C
Paste	⌘V
Clear	
Select all	⌘A
Edit missing	⌘M
Edit next	⌘N
Edit previous	⌘B

The **Edit** menu contains the standard editing operations as well as a few commands unique to FONTastic Plus

The first two items allow up to four levels of **Undo** and **Redo** in the character window and one level of **Undo** and **Redo** in the font window. The type of operation to be undone or redone is shown next to the **Undo** or **Redo** operation. If no undo or redo is possible the menu item is dimmed

Cut copies the selected items (characters or parts of characters) to the clipboard and clears those items

Copy copies the selected items (characters or parts of characters) to the clipboard without otherwise disturbing those items. FONTs NFNTs and FONDs are not copied to the clipboard but are held in a special font moving area

Paste copies the contents of the clipboard into the current character, font, or file. If pasting a range of characters you must first select a range into which the new characters are to be pasted. Pasting into the font window clears any existing characters before pasting the new ones. Pasting characters or parts into the character window adds the pasted information to the character.

If you hold down the **option** key while selecting the **Paste** item, any character you **Paste** will be scaled to fit the ascent and descent of the character you're **Paste**ing into.

Clear removes the selected characters or parts of characters without placing them into the clipboard.

Select all selects every character in the font window.

Edit missing edits the "missing" character. Not all fonts have the full complement of 255 characters. Whenever a person uses a key combination that has not been assigned a font character, the font draws a special character. That character is called a "missing character." In the standard Macintosh fonts it's a square box. In fonts created by FONTastic Plus, it is a vertical bar.

If you wish to use a different symbol for the missing character, take these steps:

- Select **Edit missing** from the **Edit** menu

- Make the changes you wish

- Close the character window

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Edit next advances the current character selection to the next character in the character grid of the font window after the currently displayed character. This command works when either the font window is active or the character window is active

· Select **Edit next** from the **Edit** menu. Or type ⌘N

Edit previous advances the current character selection to the preceding character in the character grid of the font window. This command works when the font window, the metrics window or the character window is active.

· Select **Edit previous** from the **Edit** menu. Or type ⌘B

Windows Menu

```
┌─────────────────┐
│ Windows         │
├─────────────────┤
│ Full screen     │
│                 │
│ Fonts        ⌘0 │
│✓Fonts: Venice-12 ⌘1│
└─────────────────┘
```

The **Windows** menu makes it convenient to deal with a large number of windows open at the same time. Up to ten windows may be opened in FONTastic Plus. Each one has a position in the **Windows** menu window activation section and may be brought to the top of the window stack by choosing that entry from the **Windows** menu.

Full screen toggles the topmost window's size between its current size and the full screen. This command performs the same operation as clicking the window grow box in the title bar.

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View Menu

```
Menu                          View
√Actual                       √Actual
 System                        System

 Decimal            ⌘D        Decimal            ⌘D
 Octal                         Octal
 Hex                ⌘H        Hex                ⌘H
√Key                ⌘K       √Key                ⌘K
 Offset             ⌘F        Offset             ⌘F
 Width              ⌘W        Width              ⌘W

√8x magnification   ⌘E        Large box          ⌘E
 4x magnification   ⌘R        Medium box         ⌘R
 2x magnification   ⌘1       √Small box          ⌘1

 Grid on            ⌘G        Grid on             ·
```
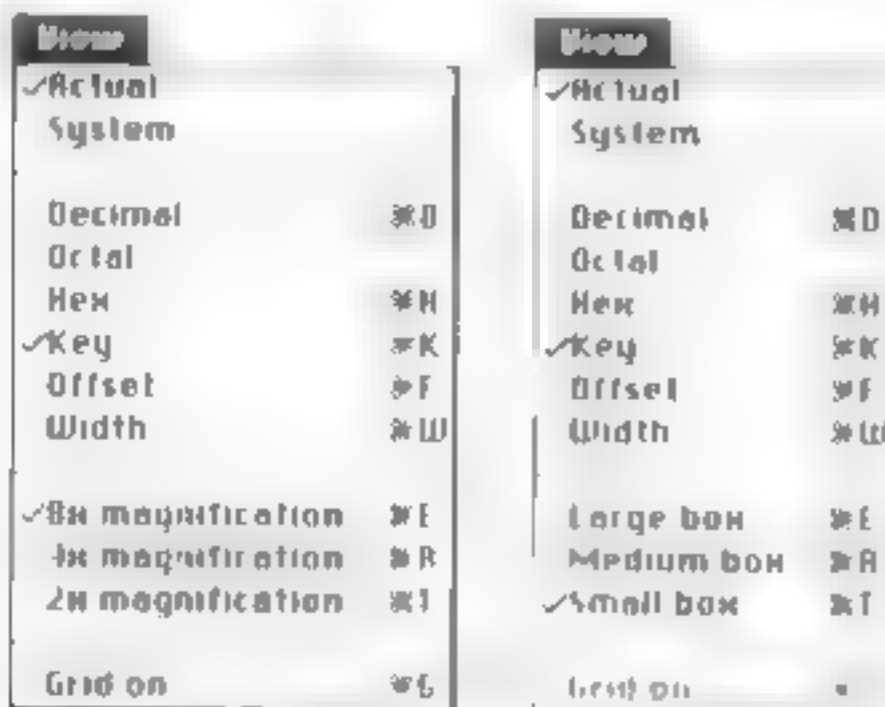
The **View** menu controls the appearance of the font and character windows

Actual changes the view of the font displayed in the active font window character grid to the actual characters in the font

System changes the view of the font displayed in the active font window character grid to the standard characters of the "Chicago" font This view can be used to assign the key positions when creating characters

Decimal changes the labels in the active font window character grid to display the decimal character number

Octal changes the labels in the active font window character grid to display the octal character number

Hex changes the labels in the active font window character grid to display the hexadecimal character number

Key changes the labels in the active font window character grid to display the keycode for the character

Note: The character grid labels like SO[Oee C 8 are interpreted as:

S- shift key
O- option key
C- command key

O[	SO[	O]	SO]
"		'	'

For example to key in **SO[** hold down the **shift** key **option** key and the [key together. Another example is **Oee** in this case hold down the **option** key and type **e** then let up on those two keys and type another **e**

Offset changes the labels in the active font window character grid to display the individual character offsets.

Width changes the labels in the active font window character grid to display the individual character widths.

8x magnification, 4x magnification, and **2x magnification** are all commands which control the size of the displayed character in the character window. **8x magnification** shows the character at eight times its actual size, **4x magnification** shows the character at four times its actual size, and **2x magnification** shows the character at twice its actual size. When a font window is selected, these items become **Large box, Medium box,** and **Small box.** The proper size box is automatically chosen when you open a font window, but you can change this choice with these menu items in order to see more characters.

Grid on is used to display a line grid in the character window. If the line grid is displayed the menu item changes to **Grid off** to turn the line grid off.

Effects Menu

The **Effects** menu contains a set of operations which produce special effects on the font as a whole or on selected characters depending on the effect that is selected

Scale entire font... is used to increase or decrease the size of the entire font to the point size selected
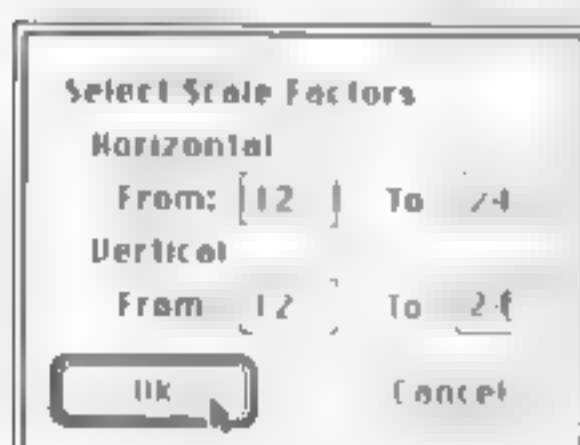
Style... is used to style selected characters with any of the standard Macintosh text styles, such as Bold, Outline etc., in addition to three additional options Expand, Condense and Invert provided by FONTastic Plus. If the font window is active, **Style...** styles the selected characters. If a character window is active, the operation is performed on that character.

```
┌─────────────────────────────────────┐
│  ┌───────────────────────────────┐  │
│  │ Select Style                  │  │
│  │                               │  │
│  │    ☐ Bold         ☐ Shadow    │  │
│  │    ☐ Italic       ☐ Condense  │  │
│  │    ☐ Underline    ☐ Expand    │  │
│  │    ☐ Outline      ☐ Invert    │  │
│  │  ┌─────────┐    ┌──────────┐  │  │
│  │  │   Ok    │    │  Cancel  │  │  │
│  │  └─────────┘    └──────────┘  │  │
│  └───────────────────────────────┘  │
└─────────────────────────────────────┘
```

Horizontal flip and **Vertical flip** flip the image horizontally or vertically around the center of the selected rectangle if a selection is made. If no selection is made it flips the character around the center of the character. If the font window is active, **Horizontal flip** or **Vertical flip** flips all of the selected characters. If the character window is active, the operation is performed only on that character or on the selected portion of the character.

Rotate is used to rotate the character or selected image 90 degrees around the center of the selected rectangle if a selection is made, or around the center of the character if no selection is made. If the font window is active, **Rotate** rotates all of the selected characters.

Set FONT Widths from FOND sets the FONT widths
for the active FONT from the fractional width table of the
FOND. If the associated FOND has no width tables, an alert
box indicating that no fractional width tables are available is
displayed. Otherwise all character widths for the active
FONT are set from the FOND fractional width table. This
can be used to quickly set the widths of a particular size bit-
map FONT after changing the widths in the metrics window.
All sizes of a bitmap FONT should have their widths set from
the FOND for optimal spacing. This item is enabled only if
width tables exist in the FOND. When editing FOND met-
rics, the menu item **Set FOND Widths from
FONT** is highlighted and can be used to initialize all the
FOND widths from the largest FONT NFNT available. This
is useful for initializing the FOND widths when first starting
to edit the FOND metrics. It wipes out any prior width values
the FOND may have had.

Special Keys

Many command key shortcuts have been defined to make using FONTastic Plus more convenient. Many menu items list command key equivalents to the right of the menu item; type the command key equivalent to perform that menu operation.

Backspace The Backspace key is a shortcut for Clear in the font window and the character window.

Tab The Tab key advances the current selection to the next position in the metrics window.

Option The Option key changes the current drawing tool to a scrolling hand when in the character window. The scrolling hand may be used to quickly drag the character image around the window. When pasting into the character window, Option pastes scaled rather than unscaled dots. In the metrics window, the Option key is used to set kerning while dragging character width indicators.

Shift The Shift key is used to make constrained horizontal or vertical moves when drawing in the character window. When drawing an oval, however, the shift key constrains the drawing to a circle. In the font window, the shift key allows you to add contiguous selected items to an already selected area. In the file window, the shift key allows you to make discontiguous selections of FONTs, FONDs, or NFNTs.

Command (⌘) The Command key (⌘) draws lines, ovals, or rectangles in white instead of black.

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ALTSYS
C O R P O R A T I O N